Public Service Commission of Wisconsin
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BROADBAND EXPANSION GRANT APPLICATION
For Fiscal Year 2022

Primary Applicant (Name and Address):	Applications MUST be UPLOADED to ERF via the Commission's website, http://psc.wi.gov/apps35/ERF_upload/content/mymenu.aspx. Refer to section 2.3 for detailed instructions. Applications are due and MUST be uploaded to ERF no later than: **March 17, 2022** at 4:00pm (16:00) Central Time. **Late applications will not be accepted.**
Waupaca Online 111 S. Main Street Waupaca, WI 54981	Contact for further information: PSCStatebroadbandoffice@wisconsin.gov
	Date: December 1, 2021

The Public Service Commission of Wisconsin is seeking applications for Broadband Expansion Grants. The Commission may award one or more grants during Fiscal Year 2022 to public and private entities that meet the eligibility requirements set forth in Wis. Stat. § 196.504. This grant round will be funded with bond proceeds authorized by the Wisconsin Building Commission pursuant to Wis. Stat. § 13.48(30). As such, successful applicants are subject to the requirements of Wis. Stat. § 13.48(30). Successful applicants will demonstrate a clear and achievable plan to improve broadband communications services in one or more underserved areas in the State.

Applicant Certification: In signing this application, the undersigned verifies under penalty of perjury that the Applicant and its employees and agents have not, either directly or indirectly, entered into any agreement or participated in any collusion or otherwise taken any action in restraint of free competition with respect to this application; that no attempt has been made to induce any other person or firm to submit or not to submit an application; that this application has been independently arrived at without collusion with any other proposer, competitor or potential competitor; that this application has not been knowingly disclosed prior to the opening of applications to any other applicant or competitor; that all of the responses and representations of Applicant in this application are true and correct to the best of the undersigned's knowledge, information, and belief; and that Applicant agrees to, accepts, and will comply with all of the terms and conditions respecting this application and any award of a broadband expansion grant as may be established in a grant award Agreement.

Name of Authorized Representative (Type or Print)	Title	Phone ( )
Joshua Werner	Director of IT	715.258.4405
Signature of Authorized Representative	Date	
	3.16.22	

SUMMARY OF GRANT APPLICATION

Primary Applicant Name Waupaca Online (City of Waupaca)	Amount of Broadband Grant Request (round to nearest dollar) $35,363
Federal Employer Identification No. 39-6005644	Amount of Matching Funds Pledged (round to nearest dollar) $36,002
Contact Name and Title Joshua Werner, Director of IT	Total Cost of Proposed Project (round to nearest dollar) $71,365
Telephone Number 715.258.4405	Project Name Waupaca Online Tower Upgrade
E-mail Address(es) joshua.werner@waupacawi.gov	Type of Proposed Broadband Service (FTTH, Cable, DSL, etc.) Fixed-Wireless
Grant Manager, if different than Primary Applicant	Type of Proposed Project (Last-mile, Middle-Mile, backbone, other) Middle-Mile
Grant Manager Contact Name	Grant Manager Email Address and Telephone Number
If the application proposes a public-private partnership, list the names, addresses, and FEINs of the partner companies or organizations Waupaca Online (City of Waupaca) 111 S. Main Street, Waupaca, WI 54981 - 39-6005644 All-Net Consulting, Ralph Schmal, 4720 N. Lynndale Dr. #9, Appleton, WI 54913	
Brief Project Description (2 sentences) Replace 50' tower at central office with tower at 100'. This will allow our wireless signal to circumvent new line-of-site issues, allow more equipment to provide more bandwidth and allow more direct connections. This would be a middle-mile project resulting in more speed to current/future customers and capacity to add more last-mile connections.	
Maximum Proposed Download Transmission Speed 100Mbps (Direct Business) 25Mbps (Residential)	Maximum Proposed Upload Transmission Speed 100Mbps (Direct Business) 5Mbps (Residential)
Minimum Proposed Download Speed to Customer Location 5Mbps	Minimum Proposed Upload Transmission Speed to Customer Location 3Mbps
County or Counties served by this project Waupaca, Outagamie, Shawano, Waushara	Community or Communities served by this project Waupaca, Weyauwega, Readfield, Symco, Bear Creek, Deer Creek, Buckbee, Marion, Deer Creek

List of the broadband service providers, if any, currently serving the area the applicant proposes to serve Frontier, CenturyLink, Spectrum Solarus, Bug Tussel, AT&T, Bertram	
Does proposed project serve an *unserved* area of the State, as defined in Section 1.4 of the application instruction? (yes/no) Yes	Is the Applicant certified as a Broadband Forward! Community or Telecommuter Forward! Community, or does the grant project propose to serve a Broadband Forward! Community or Telecommuter Forward! Community? (yes/no) No
For last mile projects or component the expected number of Business Locations that will have access to the improved broadband service (i.e., total business locations passed or with new service access). Middle Mile – Will benefit 80 business customers	For last mile projects or components the expected number of Residential Locations that will have access to the improved broadband service (i.e., total residential locations passed or with new service access). Middle Mile – Will benefit 300 residential customers
Of the improved business locations, how many locations are *unserved*?	Of the improved residential locations, how many are *unserved*?
For providers that are eligible telecommunications carriers will the proposed broadband service be available to Lifeline customers? (yes/no)	Are there any programs available for low-income households to access low-cost service or discounts? (yes/no) Yes – Essentials Program
Is the internet service provider currently participating in the Emergency Broadband Benefit Program? (yes/no) No	Is the internet service provider currently participating in the Department of Public Instruction and CESA purchasing's Digital Learning Bridge? (yes/no) No
Did the internet service provider participate in the Public Service Commission's voluntary Broadband Coverage Data Collection in 2021? (yes/no) Yes	

FY22 Broadband Expansion Grant Application
Budget & Income Summary

Please complete this form using Microsoft Excel. A PDF copy must be attached to your application as page four. In addition, this form must also be uploaded to ERF in Excel format.

Grant Summary

Grant Applicant:	Project:
Waupaca Online/City of Waupaca	Tower Upgrade

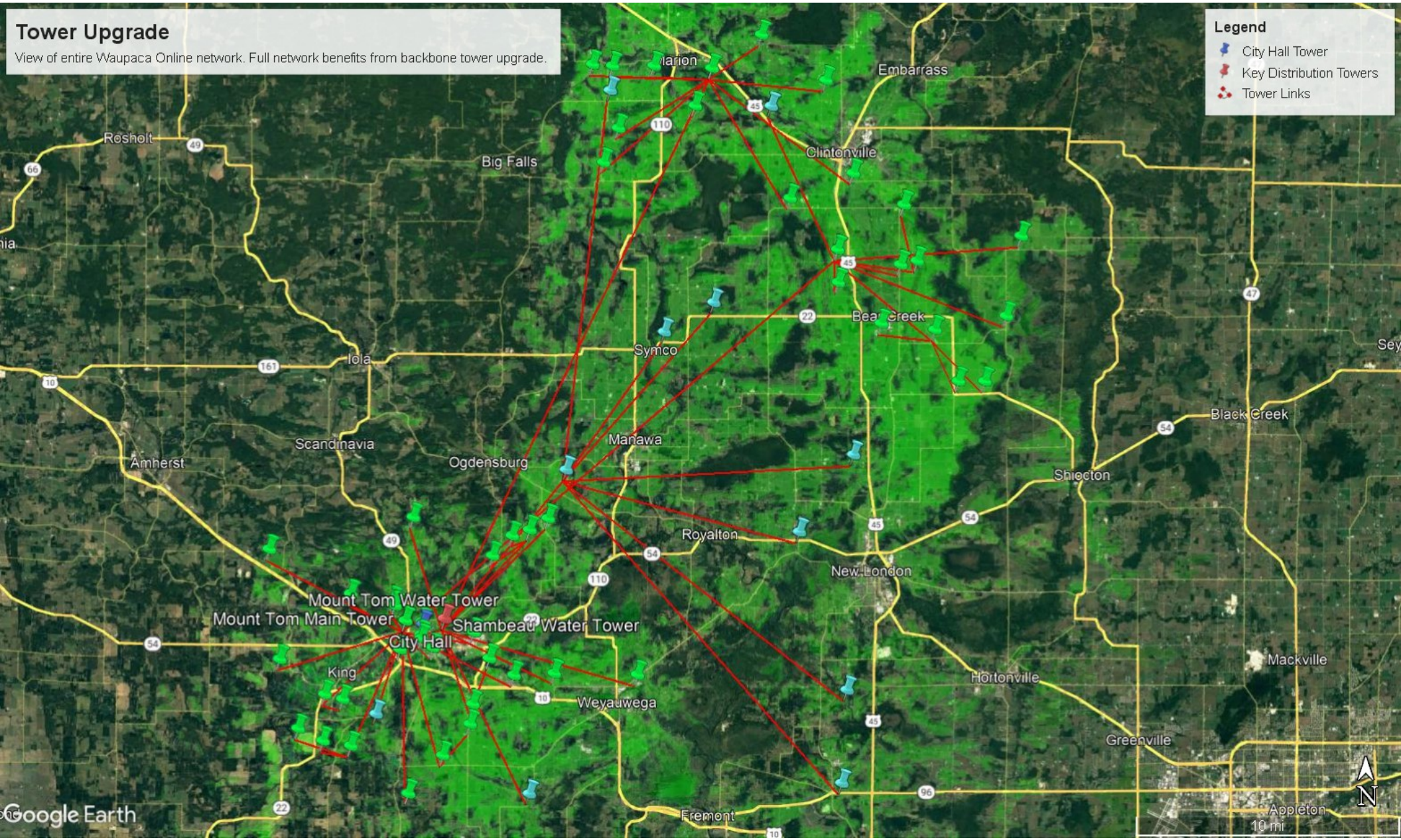
Budget

Line:	Description / Category:	Grant Funds:	Match:	Total:
1	Contractual, Consultant Fees	$ 31,789.00	$ 31,789.00	$ 63,578.00
2	Equipment	$ 1,491.50	$ 1,491.50	$ 2,983.00
3	Supplies			$ -
4	Labor (Salary, Fringe)	$ 382.35	$ 1,021.50	$ 1,403.85
5	Permitting, Licensing Fees			$ -
6	Travel			$ -
7	Other	$ 1,700.00	$ 1,700.00	$ 3,400.00
	Total:	$ 35,362.85	$ 36,002.00	$ 71,364.85
		50.4% match requested		

Pledged Contributions

#:	Entity:	Entity Type:	Pledge Type:	Pledge:
1	Waupaca Online	Applicant	Cash	$ 19,468.35
2	City of Waupaca	Applicant	Cash	$ 15,894.50
3	City of Waupaca	Applicant	Salary	$ 639.15
4				
5				
6				
7				
8				
9				
10				
			Total:	$ 36,002.00

Tower Upgrade
Detailed view. City Hall tower to be Upgraded. Three direct connect distribution towers shown.
Legend
City Hall Tower
Key Distribution Towers
Tower Links
Mount Tom Water Tower
Mount Tom Main Tower
Waupaca Millpond 176
Shambeau Water Tow
City Hall
Wisconsin St
Granite St
W Fulton St
W Union St
Ware St
Redfield St
Oman St
Townsend Rd
Shearer St
School St
Royalton St
Highland Dr
Sunridge Dr
Google Earth
2000 ft
N


Tower Upgrade
View of entire Waupaca Online network. Full network benefits from backbone tower upgrade.
Legend
City Hall Tower
Key Distribution Towers
Tower Links
Embarrass
Clintonville
Big Falls
Rosholt
Bear Creek
Symco
Iola
Scandinavia
Amherst
Ogdensburg
Manawa
Black Creek
Shiocton
Royalton
New London
Mount Tom Water Tower
Mount Tom Main Tower
Shambeau Water Tower
City Hall
King
Weyauwega
Hortonville
Mackville
Greenville
Fremont
Appleton
10 mi
N
Google Earth

1. Application identification and contact information

a. Entity Applying for the Grant

Entity: **Waupaca Online (City of Waupaca)**

Address: **111 S. Main Street, Waupaca, WI 54981**

Phone Number: **715-258-4411**

Contact Representative:

Joshua Werner
Director of IT & Community Media
jwerner@cityofwaupaca.org
715-258-4405

b. Private Partner

All-Net Consulting
Ralph Schmal
4720 N Lynndale Drive, Appleton, WI 54913
715-498-2159
rschmal72@gmail.com

c. Public-Private Partnership

The proposed broadband expansion project is a public-private joint venture between the City of Waupaca (Waupaca Online) and All-Net Consulting. This relationship is formalized in the agreement included in the appendix. This attachment documents our ongoing, operational agreement with All-Net Consulting and was not drafted specifically for the project proposed in our application. Work on this project will fall into the scope of the general agreement. All-Net Consulting is a for-profit, private company.

Public Partner – Waupaca Online/City of Waupaca
Operated by the City of Waupaca since 2002, Waupaca Online is a standalone telecommunications utility that was created to provide accessible, affordable, and high-performing Internet services for hard-to-serve residents of the greater Waupaca County, Wisconsin area. Waupaca Online is a fixed wireless ISP that serves over 380 customers. Rates collected from customers are used to fund our ISP utility as a separate enterprise fund from other City of Waupaca operations.

Private Partner – All Net Consulting
All-Net Consulting is an IT and Network Management consulting company. All-Net consulting works with a number of companies and individuals to assist with their IT, networking and technology needs. Waupaca Online contracts with All-Net Consulting to provide network engineering and management of the Waupaca Online network. Ralph Schmal of All-Net Consulting has been providing this service to Waupaca Online since 2002.

Description of Project

Waupaca Online is a fixed-wireless ISP serving over 380 customers in Waupaca County and northwestern Outagamie County. The City of Waupaca established Waupaca Online in 2002 in order to bring quality Internet services to a hard-to-serve rural area where infrastructure costs are high, the presence of alternative wireless services are limited or non-existent, and sales do not generate the profit margins necessary to attract commercial market entry by private competitors. Since its establishment, Waupaca Online's mission has been to enhance the lives of local residents by continually improving the quality and availability of Internet services. Waupaca Online invites the Public Service Commission to help us achieve that goal by participating in a project that will enable us to better serve existing customers and reach new ones.

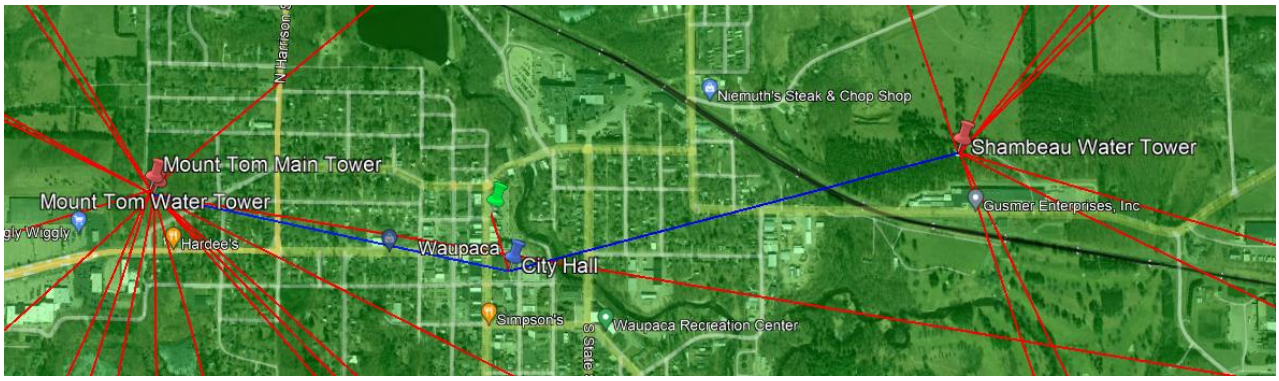
To provide the best possible service to current and future customers and advance last-mile expansion efforts, Waupaca Online seeks to upgrade key backbone middle-mile infrastructure. Currently, Waupaca Online's main office at Waupaca City Hall is outfitted with a 50' tower of inadequate height and structural strength to support the equipment needed to continue the growth of high-speed Internet services to underserved and unserved rural areas in Waupaca County. In the 20 years since the tower was constructed, trees have matured between City Hall and the Shambeau Water tower; as these trees grow, they threaten the complete elimination of the line of sight between our main office (where our bandwidth is delivered via a national fiber provider) and one of the most important relay points in our network. If Waupaca Online is unable to successfully fundraise for a new 100' tower, 380 customers risk a loss of service. This new tower will not only ensure continued line of sight between City Hall and the Shambeau Water Tower, it will also increase Waupaca Online's backhaul capacity—enabling us to deliver higher speeds to existing customers and expand into markets not currently served by any high-speed Internet provider.

In summation, replacing our current 50' tower with a new 100' tower will accomplish the following:

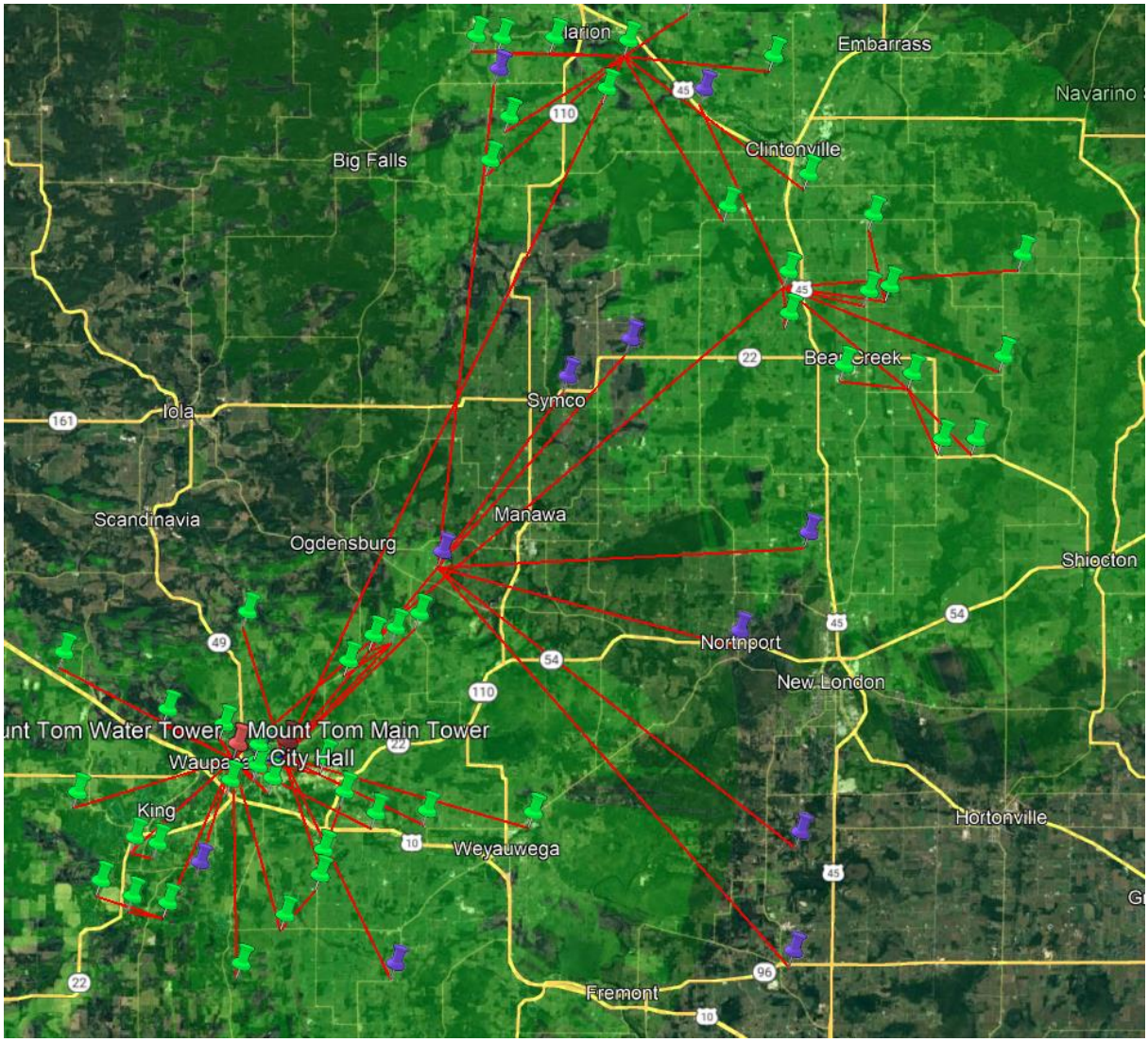
1. Deliver a clear line of sight between equipment mounted at our City Hall tower and key relay points, ensuring customers reliable service even as the tree line continues to grow.
2. Allow equipment upgrades and the addition of second links between our main tower and three key relay points to meet increased bandwidth needs of our current customers and enable future expansion.

We invite the Public Service Commission to participate in this project with a $35,362.85 commitment that will help achieve the recommendations of the Governor's Task Force on Broadband Access. With our current customer count of 380 customers, this would come at an investment of $93.06 per customer to ensure all customers can meet, and in many cases exceed, the FCC definition of broadband of 25Mbps x 3Mbps and allow direct business connections of up-to 100Mbps symmetrical.

a. Map of Project



This first figure shows the location of Waupaca City Hall and our three main towers, Shambeau Water Tower, Mount Tom Main Tower and Mount Tom Water Tower. The three mentioned towers are our three main distribution points to connect the rest of our network.



This figure shows the entire Waupaca Online network. Each pin details the location of an Access Point. All AP's are connected back to one of the three main towers detailed in the previous figure. Everything ties back to the tower at Waupaca City Hall. The main tower at City Hall is vital to the operation of the network. Improvements to this facility will open up the opportunity for more bandwidth to our current customers and continued expansion efforts.

Green Pins – Current Access Points
Purple Pins – New towers already erected – to be equipped and operational this spring
Red Pins – Three main distribution towers
Blue Pin – Waupaca City Hall – Main Tower

See multiple antennas on roof either to meet line-of-site and/or size too large for existing tower.

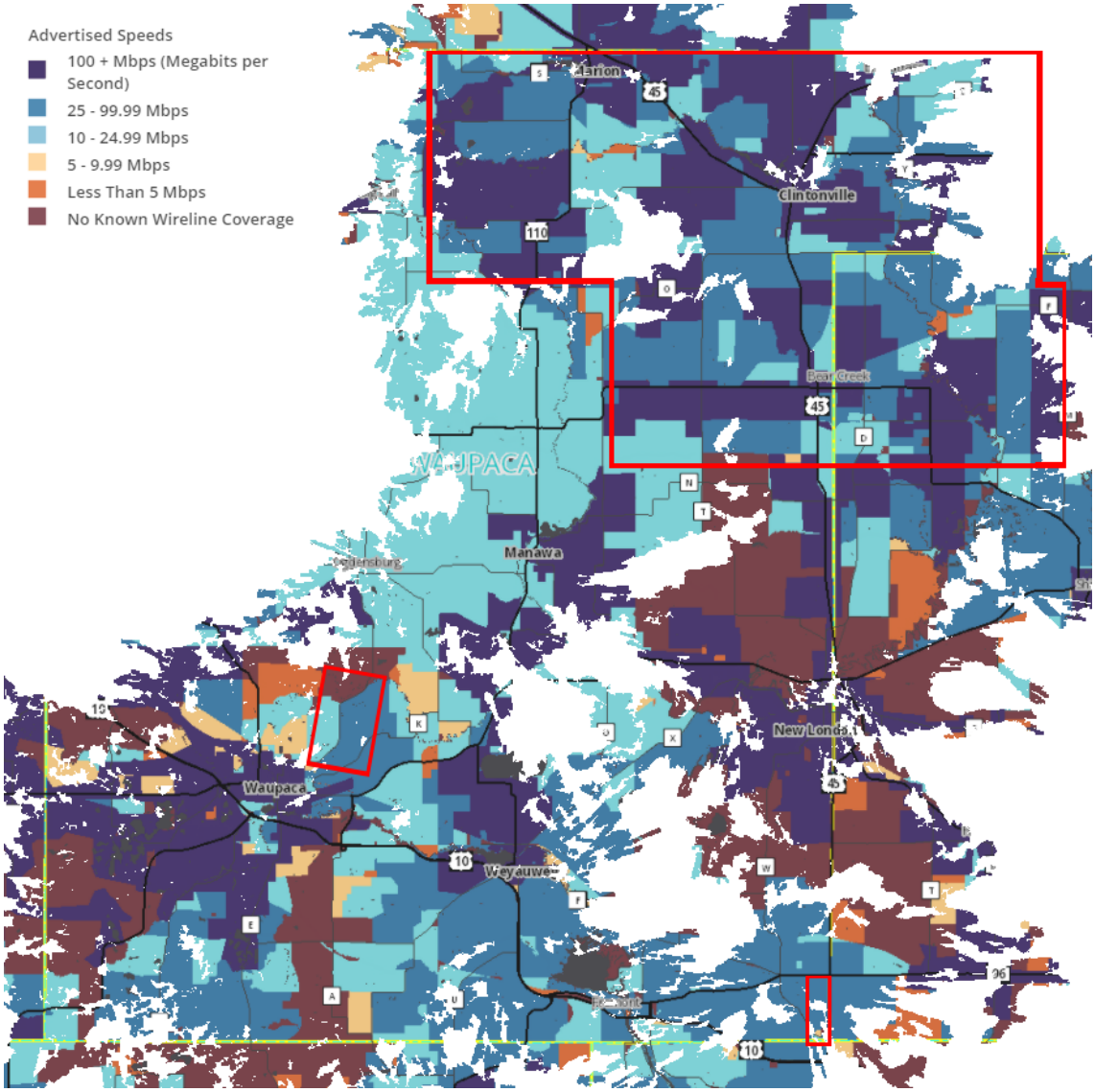
Current tower. 50' Rohn 25g.

Line of site from roof mounted antenna to Shambeau Water Tower. LOS exists but in future years will disappear.

Line of site from current tower to Shambeau Water Tower is gone. This is at approximately 40'.

b. Actual Available Service

The following map shows our coverage area overlaid with the State Broadband Map wireline coverage. Since this project is not proposing to expand our service area but rather to upgrade our service levels, we wanted to highlight other actual services in our coverage area. As demonstrated our coverage area does cover a number of areas which range from no coverage to speeds well below FCC Broadband Standards. A few areas of this map are outlined in red. These areas have DSL service from incumbent providers in which the service levels reported for this map are overstated. Despite what the map shows, residents in these areas struggle for internet service. These areas need extra scrutiny to demonstrate actual current service. At the end of this grant application is an appendix which highlights these concerns for PSC consideration. Each access point we deploy is setup with the goal to reach an unserved or underserved area but signals often travel well beyond those areas. Our customer base typically reflects this.


Advertised Speeds
100 + Mbps (Megabits per Second)
25 - 99.99 Mbps
10 - 24.99 Mbps
5 - 9.99 Mbps
Less Than 5 Mbps
No Known Wireline Coverage
Marion
Clintonville
Bear Creek
WAUPACA
Manawa
New London
Waupaca
Weyauwega

The map below is from a region-wide residential internet survey performed in Q4 2021. These are speed test results from our county residents. Rural areas that are served by our project often fall into the red, which are speeds of 0-10Mbps, another demonstration of actual service available.

Print this page

Waupaca County

Households	25,271
Population	52,410
Test locations	530
Total Tests	660
Percent participation	2.10%
Participation goal (10%)	2,527

Download

• No Service	9	1.7%
•0-10 Mbps	208	39.2%
•10-25 Mbps	109	20.6%
•25-150 Mbps	191	36.0%
•150+ Mbps	13	2.5%

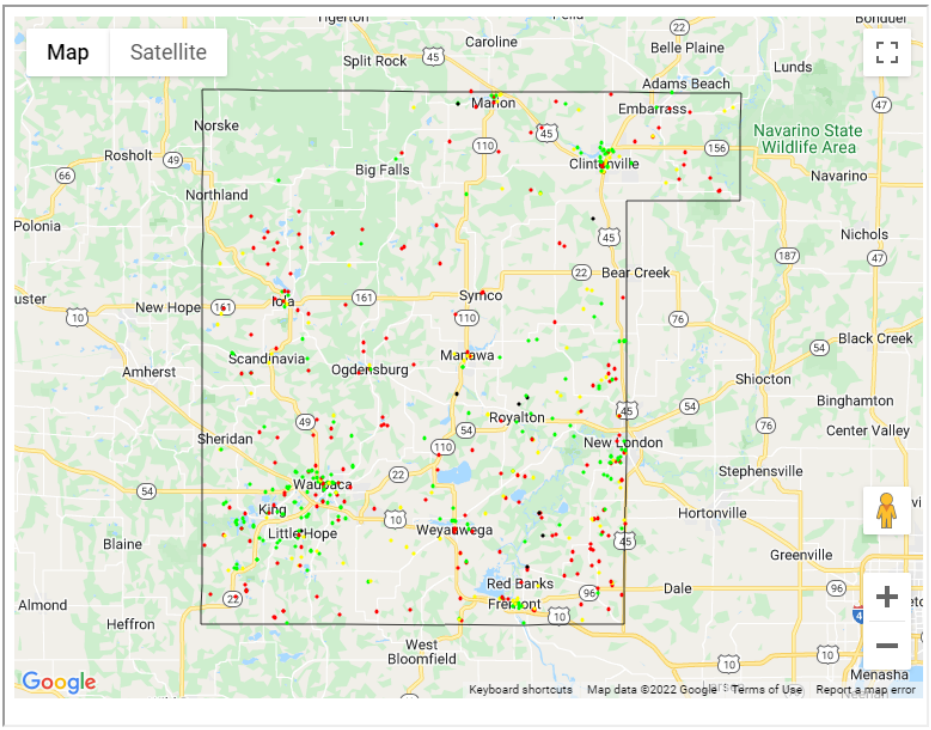
Upload

No Service	9	1.7%
<3 Mbps	269	50.8%
3-10 Mbps	111	20.9%
10-25 Mbps	126	23.8%
25-150 Mbps	9	1.7%
> 150 Mbps	6	1.1%

	Min	Max	Med Mbps
Download	0.06	371.90	15.41
Upload	0.02	614.43	2.79

No service reasons: may total>100%

Not Available	100.00%
Too Expensive	40.00%



Fixed 450 locations

Download			Upload		
No Service	9	2.0%	No Service	9	2.0%
0-10 Mbps	167	37.1%	<3 Mbps	219	48.7%
10-25 Mbps	88	19.6%	3-10 Mbps	95	21.1%
25-150 Mbps	173	38.4%	10-25 Mbps	115	25.6%
150+ Mbps	13	2.9%	25-150 Mbps	8	1.8%
			> 150 Mbps	4	0.9%

Cellular 80 locations

Download			Upload		
0-10 Mbps	41	51.3%	<3 Mbps	50	62.5%
10-25 Mbps	21	26.3%	3-10 Mbps	16	20.0%
25-150 Mbps	18	22.5%	10-25 Mbps	11	13.8%
150+ Mbps	0	0.0%	25-150 Mbps	1	1.3%
			> 150 Mbps	2	2.5%

c. Explanation of How Proposed Project Will Increase Broadband Access

The purpose of this project is to upgrade broadband service to unserved and underserved residents in Waupaca and Outagamie Counties. Across this sparsely populated rural county, access to broadband internet services remains low as telecommunications providers have determined that broadband investments in this region would fail to provide a timely return on investment. Waupaca Online, a municipality-owed ISP that operates through a public-private partnership with All-Net Consulting, was created to address this issue. This proposed project represents a new chapter of our effort to deploy advanced telecommunications capability across underserved areas of our county by ensuring the root of our network has the facilities needed to continue to provide, expand and improve service long into the future. This project will increase broadband access two-fold 1) will allow increased bandwidth to current customers by upgrading key backbone and middle-mile infrastructure and 2) will allow continued expansion efforts to reach more customers.

d. Backbone/Middle Mile/Last Mile Statement

The proposed project would be both a backbone and middle-mile project. The proposed tower is located at the origin point of our network; the middle-mile equipment upgrades associated with this project would in essence increase the amount of bandwidth available at our three main towers which distribute bandwidth to the rest of our network.

e. Service Description

Waupaca Online offers three residential service tiers, all of which come without data limits, overages, or extra fees. Internet service is fully unrestricted. This is delivered over wireless backhauls operating in the 5ghz, 11ghz and 24ghz bands and delivered to customers via 2.4ghz fixed-wireless service.

- 5Mbps x 3Mbps
- 10Mbps x 4Mbps
- 25Mbps x 5Mbps

Waupaca Online also offers dedicated business level internet service. This is delivered over wireless backhauls operating in the 5ghz, 11ghz and 24ghz bands and delivered to businesses via 5ghz fixed-wireless service. Speeds start as low as 10Mbps symmetrical, in 5Mbps increments up to 100Mbps symmetrical.

f. Middle Mile Project Description

The middle-mile links proposed in this project are dedicated fixed-wireless point to point links. They are unable to be tapped into by other broadband service providers. No right-of-way access will be needed for this project.

g. Proposed Project Schedule

Timeline	**Item**
Upon Grant Award	Enter into agreement with selected vendor to build tower. Schedule soil study for Geo Report.
Month 1	Engineering Order tower and foundation materials
Month 2	Site prep and tower foundation Install cabling conduit
Month 4-5 (Depending on tower material availability)	Receive tower Install tower
Month 6	Final restoration of tower site Installation of equipment Completion of project

Itemized Budget

a. Expenses and c. Grant Fund Purpose

See following page.

b. No Subsidization of Operating Expenses or Profit

Per the itemized budget found in the prior section, actual costs are shown for equipment, supplies and labor for our internet expansion project. Actual costs will be documented and submitted for reimbursement showing that funding received has not subsidized operating or customer costs.

There are a few steps we will take to ensure that any grant money awarded will not subsidize our operating costs, customer's monthly bills or add to our profit:

- Staff and consultants working on this project will be expected to be accountable for their time and keep tract of hours worked on this project separately from their normal duties. This can be accomplished with our employee timekeeping system.
- A separate line item will be specified in our operating budget to account for items purchased to be reimbursed by grant costs.
- Equipment and supplies purchased will be marked on invoices as items for this grant project to stand apart from items for regular operations.
- New customers added as a result of any upgrades or additions to our network will be subject to our normal pricing structures, as stated, at the time they add service.

3.2.1.3 (a) Itemized Statement of Funding Request

Summary of Funding Sources

3.2.1.3 (c) Grant Fund Purpose

Project Items		Cost	Quantity	Total	Grant/Match			
Description	Item	Cost		Needed	Grant	Waupaca Online	City	Description
Tower Installation and Backhaul Upgrade								
100' Tower with Installation	ROHN 100' SST	$ 63,578.00	1	$ 63,578.00	$ 31,789.00	$ 15,894.50	$ 15,894.50	**Construction of Facilities** - Items in this section include the installation of a 100' tower and upgraded backhaul equipment.
AirFiber 24	Backhaul Upgrade	$ 2,983.00	1	$ 2,983.00	$ 1,491.50	$ 1,491.50	$ -	
				$ -	$ -	$ -	$ -	
				$ -	$ -	$ -	$ -	
				$ -	$ -	$ -	$ -	
				$ -	$ -	$ -	$ -	
				$ -	$ -	$ -	$ -	
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				$ -	$ -	$ -	$ -	
				$ -	$ -	$ -	$ -	
				$ -	$ -	$ -	$ -	
Labor								
Project Administration		$ 42.61	15	$ 639.15	$ -	$ -	$ 639.15	**Project Planning, Construction of Facilities & Installation and Testing** - All labor is detailed in this portion of the budget. This includes time for project planning, grant administration and actual installation, configuration of equipment and installation of equipment of the new tower.
Network Engineering		$ 54.63	10	$ 546.30	$ 273.15	$ 273.15	$ -	
Staff Labor - Tower Equipment Installation		$ 21.84	10	$ 218.40	$ 109.20	$ 109.20	$ -	
				$ -	$ -	$ -	$ -	
Contingency ~ 5% of Project		$ 3,400.00	1	$ 3,400.00	$ 1,700.00	$ 1,700.00	$ -	
					$ -	$ -	$ -	
TOTAL:				**$ 71,364.85**	$ 35,362.85	$ 19,468.35	$ 16,533.65	$ 71,364.85
				Match %	49.55%	27.28%	23.17%	100.0%

Priority Factors

a. Matching Funds

Waupaca Online's main mission is to enhance the quality of life and economic development in Waupaca County and our surrounding areas by providing high-speed internet into areas with no or limited choices. After our normal operating costs are covered, whatever money is leftover goes into our cash reserves and is re-invested into Waupaca Online for equipment upgrades, network improvements and to cover emergency costs. With that being said, we have setup this project and request to be able to make a significant impact on broadband access in the Waupaca County at a cost that will allow Waupaca Online to make a significant match. Waupaca Online proposes the following to fund this project.

Funding Source	**Amount**	**Percentage**
Waupaca Online	$19,483.35	28%
PSC Broadband Grant	$35,362.85	49%
City of Waupaca	$16,533.65	23%

b. Public-Private Partnership

Waupaca Online contracts with All-Net Consulting of Appleton, WI, for network management and engineering services.

Below details the responsibilities of each partner:

Public Partner	*Private Partner*
Waupaca Online	**All-Net Consulting**
• Financial Commitment • Overall Project Administration • Interface with PSC regarding project and grant status • Provide project staffing • Procure outside services • Interface and realize relationships with key project partners	• Project Technical Management • Design and Planning • Network Engineering and Setup • Lead tower staff in correct placement of equipment

Waupaca Online staff have engaged with the community in a number of recent meetings regarding internet availability, expansion efforts and our new low-income (essentials) program. Recent meetings include:

- Tuesday, January 11, 2022 – Caledonia Town Hall
- Wednesday, February 16, 2022 – Waupaca County Courthouse
- Tuesday, February 22, 2022 – Union Town Hall
- Thursday, February 24, 2022 – FVTC Regional Center Clintonville

One of our meetings was recorded and made available for online viewing:
https://www.youtube.com/watch?v=B9JqdV1sjDU

Information is available on our website about our new low-income program.

https://www.cityofwaupaca.org/waupacaonline/essentials-plan/

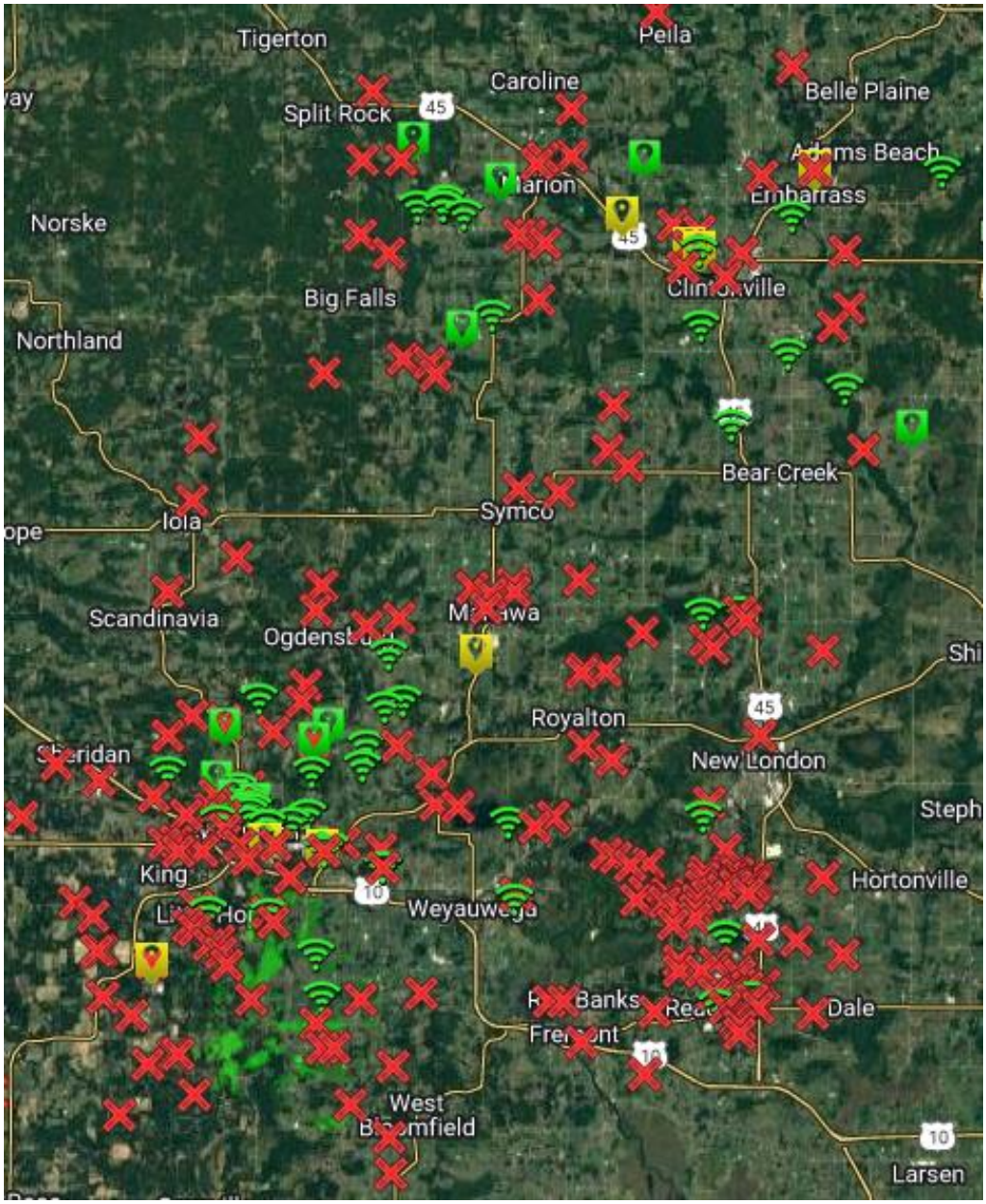
c. Existing Broadband Service

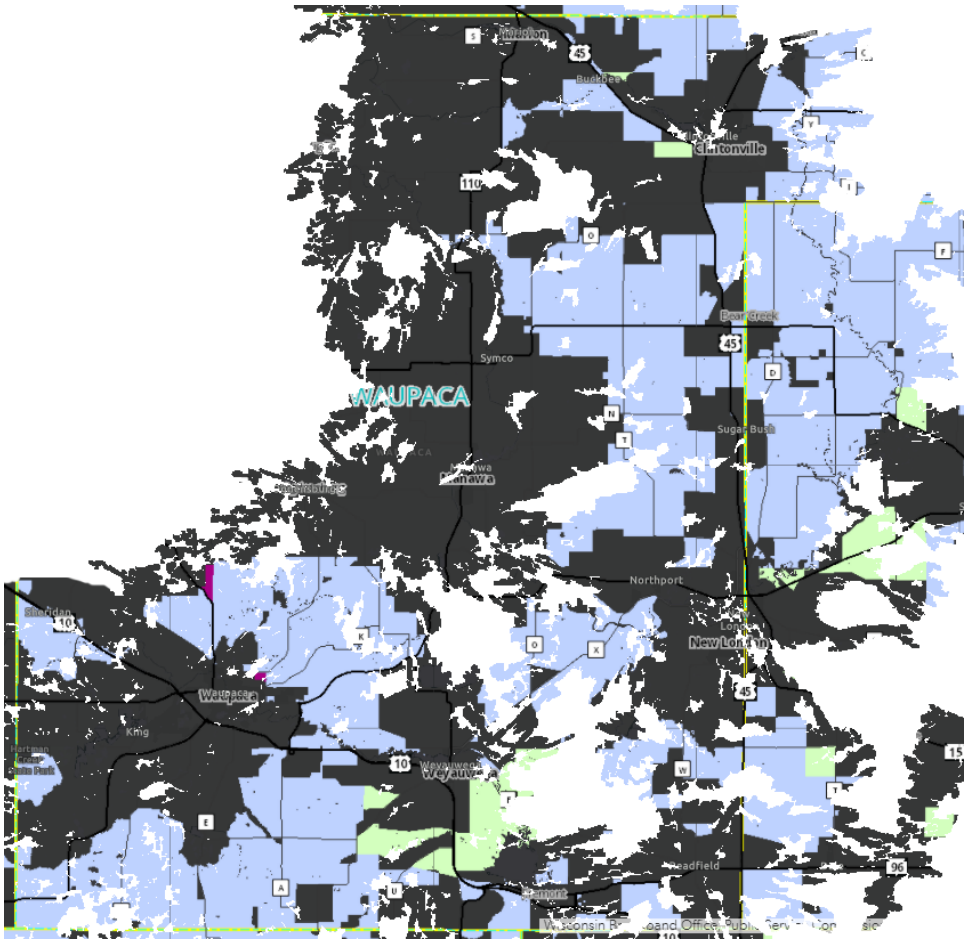
This project covers a large geographic area with a number of other internet providers who provide varying levels of coverage and bandwidth. The below chart is an overview of these providers. The map in the "Description of Project" section of this application "Section B. Actual Available Service" gives an overview of this.

Provider	Approximate Speeds	Geographic Location	Comments
Frontier – DSL	1.5 - 18Mbps download where available is the typical average	Northern third of project area.	Data submitted to the PSC is overstated. Frontier claims in many areas they provide service in excess of 100Mbps. Upon talking to residents, searching dozens of addresses on their website and talking to customer support these claims are false with a large number of locations "not serviceable" or can only achieve speeds lower than FCC broadband standards
Spectrum	940Mbps download	Near the urban centers in our coverage area. Waupaca, Weyauwega, New London, Clintonville and Marion.	Our focus is the rural areas despite any overlapping coverage. Once into the urban areas our coverage and ability to achieve line of site becomes more difficult. While there is overlap on map the reality of our customer base minimizes overlap with Spectrum.
CenturyLink	768kbps – 60Mbps download	South eastern area of coverage. Rural Weyauwega and Caledonia/Readfield.	Speeds drastically vary with the fastest speeds in Fremont and Readfield. The more rural areas have lower speeds that average 10Mbps or lower. Data submitted to the PSC is overstated with actual speeds much lower than claimed.
Solarus	10Mbps download	Central Waupaca County	Our biggest customer demand comes from this area. In Solarus' rural coverage area the speed is 10Mbps x 1Mbps. Well below FCC Broadband standards.
AT&T DSL	6Mbps download	Rural Waupaca and New London	AT&T's rural DSL service area is extremely limited with slow speeds and many areas of their exchange do not offer DSL. We have heard that new rural DSL customers are turned away as AT&T looks to end landline services.
AT&T Fixed Wireless	Up-to 25Mbps	Rural Waupaca and New London	Coverage areas are spotty along with data limits and overage fees.
Bertram Wireless	Up-to 25Mbps	Rural Clintonville	We share some overlap with Bertram but both have unique coverage areas that do not intersect. Further Bertram's service in Waupaca County is promoted as 'commercial' service. 25Mbps is $199.95/month which is NOT affordable to households. Their lowest offering is 5Mbps at $104.95/month.

Bug Tussel	Up-to 25Mbps	Rural Bear Creek and south of Waupaca	We share some overlap with Bug Tussel and also have unique coverage areas.

Unfortunately, we cannot control how wireless signals propagate when trying to service particular areas. These often leads to more overlap "on paper" then in reality of where our customer base is located. A lot of our customer base is located in rural underserved areas. The below map shows where recent and current customer interest is coming from. Most of the markings on this map are outside the immediate urban areas and many fall into the underserved rural areas.





RDOF Overlap. The above map shows our approximate coverage area overlaid with the RDOF map. As you can see approximately 50% of the area we cover is outside of RDOF funded areas. A few items to note with the overlap:

- This is our current service area which we already provide service. This specific project does not propose entering any new areas.
- Due to the structure of this proposed backbone/middle-mile project this is designed to benefit our entire network. We cannot choose what areas benefit from this project and which do not. This is an all or nothing upgrade.
- Our region is heavy in agriculture with many family or locally owned farms and dairy facilities. These businesses who are important to our local economy cannot wait up-to 6 years for better internet service. We have designed a project that can have impact in approximately 6 months at a very low cost per customer. We have learned that Spectrum does not yet have an established timeline to buildout any of the RDOF areas in Waupaca County and timelines will not be known for another three months.

d. Project Impact

In alignment with the recommendations of the 2021 Governor's Task Force on Broadband Access, this project will have immediate and long-term impacts on the accessibility of high-speed, affordable Internet across Waupaca County. In the near-term, the construction of a 100' tower at City Hall will remove a threat to Internet reliability by ensuring no loss of site between key relay points in the network. More than this, though, a new 100' tower will allow Waupaca Online to install upgraded equipment at City Hall that will increase speeds for our 380 existing customers, 96 waitlisted customers, and all future customers. By investing in our primary distribution point, this project will improve Waupaca Online's baseline capacity to increase speeds throughout its entire network.

Waupaca Online is unique among Internet service providers because it has, since the beginning, operated with a social mission: to bring affordable, high quality Internet services to an area without service. In pursuit of that mission, Waupaca Online implemented a low-income program in Q4 of 2021 which makes our services available at a discounted price for income-eligible households. Rates start at $10 - $15/month lower than standard pricing for qualifying residential customers of this program. As we prepare to make 25Mbps service more readily available to our customers through this and other projects, these price changes reflect our commitment to making base level broadband service affordable for our customers. Information about this program is available on our website, presented by our installation staff and has been discussed in recent public information meetings.
https://www.cityofwaupaca.org/waupacaonline/essentials-plan/

e. Scalability

By erecting a stronger, taller tower at Waupaca Online's main office (where our network and bandwidth originate), several opportunities are available to expand and improve broadband service:

- This tower will offer backbone and middle-mile upgrades to our three main towers, both by improving line-of-site issues essential for successful fixed-wireless connections and space to install future links to increase capacity to our main three towers.
- This project will increase bandwidth capacity on our network, which in turn will:
    - Allow current customers higher speeds packages
    - Expand of our footprint
        - These upgrades will directly impact the success of an ongoing, CDBG-PF funded initiative between Waupaca Online, Waupaca County, and the Waupaca County Economic Development Corporation. Waupaca County recently erected 11 towers, which Waupaca Online operates from. While Waupaca Online can service these towers 'as-is,' continued footprint expansion off of these towers will be extremely limited without upgrading our backbone and middle-mile links. Completing this project will allow additional last-mile expansion off of these 11 towers, more effectively leveraging the impact of both CDBG and PSC investment.
    - Improve adaptability and resilience.
        - Bandwidth needs will continue to evolve. Because of its increased structural strength and height, this tower will provide us with the capability to upgrade our tower with the latest broadband technologies to meet the current and future needs of our customers.

f. Economic Development

While reliable high-speed internet is fundamental to Waupaca County's prosperity and economic development, survey results from the 2021 Waupaca County Broadband Study demonstrate that residents and businesses of the area are already experiencing the adverse impact of disinvestment in telecommunications infrastructure. Of the 823 Waupaca County residents surveyed by New North, Inc:

- 88% report a need for better Internet service
- 87% indicate that Internet is "very important" to their household
- 72% have trouble streaming videos online
- 49% need better Internet to work from home
- 48% indicate they have no alternative to their current Internet provider
- 31% indicate that the availability of broadband Internet affected where they choose to live
- 25% are "satisfied" or "very satisfied" with the speed of their internet service

In a separate survey of business owners conducted for the 2021 Waupaca County Broadband Study, New North found that 80% of employers indicate a need for better internet service and 1/3 of businesses are adversely impacted by limited Internet availability. In Waupaca County, agriculture accounts for 22% of all sales, 14% of all jobs, and 13% of all income. While raising livestock and growing crops may be imagined as an old-fashioned industry, the reality is that agriculture is increasingly reliant upon Internet connectivity. Farmers, ranchers, and plant breeders depend on high-speed Internet to track weather conditions, analyze water and fertilizer input, automate systems, and conduct sales.

Rural Waupaca's diverse set of industries, from agriculture and manufacturing to retail and health services, all depend on reliable and affordable high-speed internet. Unfortunately, the 2021 Waupaca County Broadband Study demonstrates that Waupaca County's economic competitiveness is already impaired by its limited broadband infrastructure. With 1/3 of businesses surveyed indicating negative economic impact from a lack of reliable Internet services and nearly half of residents needing faster Internet speeds to work from home, improving Waupaca County's broadband infrastructure is not just a matter of competing for new residents and businesses—it's also critical to retaining those already here. Frequent interruptions, slow connections, and data limits are profound challenges to remote workers in rural areas. If Waupaca County cannot provide these workers and the businesses that employ them with reliable high-speed Internet services, they will go elsewhere.

Waupaca County boasts abundant recreational opportunities, a low cost of living, and high-quality schools. But to attract and retain people in this area, we need to make sure that Internet services are available—particularly when workers are increasingly working out of home offices. The City of Waupaca has experienced the negative impacts of low Internet connectivity in its new residential neighborhoods. Lot and home sales have been slowed when prospective buyers discover that there is a dearth of Internet providers in the area. Investing in this project will reverse the negative consequences of low Internet connectivity in our region and set us on a path of rural prosperity rather than one of rural decline.

By upgrading Waupaca Online's primary tower, this project will eliminate line of sight concerns and enable the adoption of new and heavier equipment that will make speeds of at least 25Mbps x 5 Mbps standard for Waupaca Online residential customers and provide up to 100Mbps symmetrical speeds to business customers. Residential customers who want even more advanced speeds could also be eligible to upgrade to 100Mpbs symmetrical. Every one of Waupaca Online's existing customers and

future customers stands to benefit from this project, either in the near or mid-term. As a result of this project, Waupaca County will offer businesses with Internet speeds that support growth and residents with services that meet the needs of home-based work, including streaming and video conferencing.

As Governor Evers stated, the COVID-19 pandemic has underscored the fact that high-speed broadband is a necessity, not a luxury. In places with very low population density like Waupaca County, establishing telecommunications infrastructure is especially challenging because it offers low return on investment to conventional telecommunications providers. As one of Wisconsin's few municipal-owned ISPs, Waupaca Online exists to provide reliable and high-speed Internet for a county that has attracted little investor interest. With support from the Public Service Commission, Waupaca Online can help meet Governor Evers' goal of providing accessible and affordable high-performance Internet in Wisconsin.

g. Effect Upon Broadband Service to Adjacent Areas

Completing this project should have extremely limited impact to other internet providers wanting to enter the same or adjacent areas. Since our entire system is fixed-wireless, we will not be utilizing any right-of-way for above or underground cabling. The wireless links we would have originating from this tower are very specific and would unlikely cause any issues to any current or future fixed-wireless ISP's who may decide to operate in a close vicinity. Waupaca Online operates in close proximity to a number of other fixed-wireless ISP towers with no issue.

Other Information Supporting this Application

a. Applicant's History

Waupaca Online was created to introduce quality Internet services to a hard-to-serve rural areas where infrastructure costs are high, the presence of alternative wireless services are limited or non-existent, and sales do not generate the profit margins necessary to attract commercial market entry by private competitors. In 2002, businesses in the City of Waupaca's Business Park expressed concern that they had no alternative to dial-up Internet service. The City attempted to attract AT&T and Charter, but those attempts were unsuccessful after those providers determined that it was not possible for them to build immediately profitable broadband services here. With its options limited, the City of Waupaca launched its own internet service in order to provide high speed Internet to businesses that required access to quality telecommunications to survive. All-Net Consulting was contracted to provide network engineering and management consultation, and has remained a private partner to Waupaca Online ever since. In 2002, Waupaca Online gained CLEC certification, constructed a 192' tower and gained its first customers. Today, Waupaca Online serves a total of 380 customers, from 52 POP's. 21% of our customers are classified as business and 79% are residential.

FY2015 PSC Grant Project

Waupaca Online was a recipient of a FY2015 State of Wisconsin Broadband Expansion Grant. This $24,000 project allowed Waupaca Online to upgrade our entire backhaul network to current wireless standards. As a result of this project, our customers have enjoyed faster speeds and increased reliability. Before this project most customers saw a max of 3Mbps of service. Now, speeds are averaging 6Mbps – 15Mbps. The FY2015 project aided economic development in our region by allowing Waupaca Online to create its Broadband Business Plus service, which provides businesses with a dedicated connection segmented from residential service at symmetrical speeds of 10 – 30 Mbps.

Finally, as with this proposed project, our previous project allowed us to plan for the future. Since completing this project, we have added several new POP's to expand service using our upgraded system and without any degradation to current customers. Completing the FY2015 broadband expansion grant project shows our ability and willingness to increase high-speed internet access to Waupaca County residents.

FY2018 PSC Grant Project

Waupaca Online was a recipient of a FY2018 PSC Broadband Expansion grant. This project expanded our services to rural areas focused in northern Waupaca County (and reaching into northwest Outagamie County). The total project cost was $32,842.48. This project was undertaken at the request of the Waupaca County government and various town boards after attempts to work with incumbent providers failed. PSC grant funding was appreciated as it provided the extra resources needed to expedite the project. In this 24-month period, 50 new customers were added to our system from a total of 12 POP's. Work and expansion in this have continued beyond the grant period. As of February 2021, we have established 22 POP's in this region, building beyond the initial grant project and are now serving 109 customers.

Non PSC Grant Projects

- 2019 – Expansion into rural Deer Creek in North West Outagamie County
- 2020-2021 – Upgrade key middle-mile links from main office to two main towers from standard 5ghz connections to 24ghz Airfiber (Mount Tom) and 5ghz Airfiber (Shambeau). This tripled capacity from our main office to two of our main relay points while reducing ping time to millisecond response.
- 2021-2022 – Working with Waupaca County government on expansion project deploying services from 11 new broadband towers in rural Waupaca County.

Experience

Waupaca Online has partnered with All-Net Consulting of Appleton to provide day-to- day technical management of our network along with network engineering services. Ralph Schmal is the representative in this role and his background includes over two decades in local government including IT, network administration and building wireless networks to link municipal buildings. Before that, Mr. Schmal spent twenty-five years working for Jewel Companies providing network support and design for a 1,200 store network.

Josh Werner, City of Waupaca IT Director, has ten years of administrative experience managing the Waupaca Online operation. He was also the administrator of our previous two grant projects. Waupaca Online utilizes professional tower climbers for mounting and servicing equipment.

b. Non-Duplication of Existing Broadband Service

This is a project to upgrade backbone and middle-mile infrastructure not to expand service area. As demonstrated throughout this grant application our focus and customer base are in the unserved and underserved rural areas despite service overlap with other providers. Our focus is to provide service where its needed verse trying to compete in the well served areas that our wireless signals cover.

c. Financial Ability to Undertake Proposed Project

As a standalone municipal operated telecommunications utility, much like a water or sewer utility, all user fee revenue from our customers is kept within our enterprise fund. All expenses are paid fully from user fees utilizing no tax dollars from the city; nor does the city receive any of our excess revenue.

The last completed audit for the City of Waupaca, including Waupaca Online is from FY2020; per this audit, Waupaca Online has $157.167 in cash available.

Our FY2020 audit may be viewed at this URL: https://www.cityofwaupaca.org/wp-content/uploads/2022/02/Audit-Report-for-the-City-of-Waupaca-for-the-Year-Ended-December-31-2020.pdf

All revenue in excess of expenses remain with Waupaca Online are reserved for equipment upgrades, expansion projects, emergency costs, contingency and to cover any unexpected periods where revenue may fall short of expenses. Waupaca Online management, at minimum, likes to ensure three months operating expenses are available at all times from our cash fund balance (approximately $48,000) with the remainder being available for upgrade and expansion expenses. Being diligent and fiscally responsible allows us to maintain a situation where we are able to continually expand and upgrade our services.

Waupaca Online is able to financially support the project as proposed in this application. Should we not be awarded grant funding for this project we will not move forward as planned, either the project will not happen hindering future opportunities our will significantly delay the timeline.

d. Middle Mile Fiber Terms

N/A - This is a non-fiber project.

e. Middle Miler Fiber Capacity

N/A - This is a non-fiber project.

f. Health Care Services from Home

With onsite healthcare services located primarily in urban clusters, telemedicine and telehealth services are revolutionizing the nature of rural health care. The 2021 Waupaca County Broadband Report found that 294 out of 823 respondents already use the Internet for telemedicine. At the same time, 72% of Waupaca County residents surveyed report having trouble viewing online videos, 69% have trouble using the Internet when others are using it, and 60% experience challenges with video chat. By investing in broadband infrastructure that can support the bandwidth demands of telemedicine (which includes streaming video and video conferencing), the Public Service Commission can help Waupaca County's older citizens age in place. This is especially important in a place like Waupaca County, which has a significantly higher than average population of older residents. According to the 2020 US Census, 21.3% of Waupaca County residents are persons 65 years and over compared to 17.5% statewide and 16.5% nationally. With Waupaca County's rural status, slow and unreliable Internet services, and a population that is disproportionately older, the need for investment in broadband infrastructure to support telemedicine services is significant. This project will provide the Public Service Commission with a tangible opportunity to ensure that rural elders have access to health care services from their homes.

g. Student/Educational Access

Access to affordable high-speed Internet access is essential to bridging the gap in learning faced by many children and families in Waupaca County. The 2021 Waupaca County Broadband Report show that 49% Waupaca County households surveyed need Internet to complete school assignments, participate in distance learning, or receive job training course work. The bandwidth needs for schooling can be demanding, especially with concurrent uses. Activities like videoconferencing and streaming require Internet speeds that exceed what is available to many Waupaca County residents, with 72% of survey participants reporting trouble viewing online videos and 60% reporting difficulty using video chat. In a rural community like Waupaca County, the challenge of limited home Internet service is compounded for school-aged children because obstacles to transportation separate households from public Wi-Fi: walking to the library isn't an option for a student living in the country. By updating Waupaca Online's main tower, this project will enable Waupaca Online to deliver standard speeds of 25/5 to existing customers and deliver faster speeds to future customers. In an area where more than 50% of households have trouble using common Internet services and nearly the same proportion report having no options for Internet service, this project will give current and new households the speed that they need to succeed in school.

h. City, Villages, County and Town Support of Project

This project has the following municipal support:

- City of Waupaca – Support in-kind of project administration costs, contribution of $16,533.65 toward project costs both unanimously approved by the Waupaca City Council on 3/15/22.
- Waupaca County – Use of broadband tower infrastructure to continue expansion and solidify service offerings.
- Town of Caledonia – Support of expansion efforts to provide broadband service to residents who are unable to obtain service. This project supports these efforts.

i. Letters of Support

Attached on following pages.

j. Other Factors

Appendix – Internet Speed Issues

Public Information Meeting Information

Low Income Program Information

All-Net Consulting Agreement

WAUPACA COUNTY
PLANNING & ZONING OFFICE

811 Harding Street Waupaca, WI 54981
Phone: (715) 258-6255 Fax: (715) 258-6212

March 9, 2022

Dennis Klaila
State Broadband Grant Program
Public Service Commission of WI
610 N. Whitney Way
Madison, WI 53705

RE: Letter of Support – Broadband Expansion Project

Broadband internet nowadays is more important than ever. As Waupaca County's county planner, one of my tasks is to determine and try to avoid future problems before they happen. A lofty task indeed, but some issues are easily identified and their relative importance to so many other issues are easily determined as well. Broadband internet availability is that exact issue. The availability of internet in the unserved or underserved areas of the county affect so much more than who can check their email. It affects where businesses can be located, where telecommuters can live and where students can meaningfully interact with their teachers or class.

Waupaca Online has already been proven to be an effective partner with broadband expansion with their assistance in locating 11 broadband towers throughout the county's most needy areas. This grant request for upgraded equipment for some select towers of the 11 is easy to support because of the relative upgrade in the overall user experience and the upgrade in the network itself. Getting people internet is half the battle, getting them high quality, stable internet will only help our community more.

I fully support Waupaca Online's grant request, as I am sure everybody who would benefit from it would as well. I am very happy that Waupaca Online is requesting this grant and sincerely hope the State understands the importance of this as well.

Sincerely,

Ryan Brown
Planning and Zoning Director

WAUPACA COUNTY BOARD OF SUPERVISORS
811 Harding Street
Waupaca, WI 54981
Phone: 715-258-6200 Fax: 715-258-6212

Dick Koeppen
County Board Chair

Mary Kay Poehlman
Vice Chair

March 9, 2022

Dennis Klaila
State Broadband Grant Program
Public Service Commission of WI
610 N. Whitney Way
Madison, WI 53705

RE: Letter of Support – Broadband Expansion Project

Broadband expansion continues to be an issue of extreme importance within Waupaca County. As our society relies more and more on digital interfacing, the need to be able to connect to the internet becomes more and more crucial. What was once considered a luxury item is now more of a utility. A necessary item to be able to connect to the outside world. To be able to start a new business, telework or just to have a student learn virtually, all requires high quality, broadband internet. It is because of this that Waupaca County is excited to support Waupaca Online on an ambitious project to outfit 11 towers with internet broadcasting equipment.

The aforementioned 11 towers are especially crucial because they specifically targeted areas that are known to be unserved or underserved with broadband. That is why it is easy to support Waupaca Online's grant request for upgraded equipment on some select towers because that upgrade will directly affect some of the most needed areas in the county.

Waupaca Online has proven to be a valuable asset for broadband expansion. On behalf of Waupaca County Board of Supervisors, I am very much in support of this project. This is exactly the type of project that we need to see in Waupaca County.

Sincerely,

Dick Koeppen
Waupaca County Board Chair

City Administrator

Aaron Jenson, City Administrator
111 S. Main Street • Waupaca, WI 54981
ajenson@cityofwaupaca.org
www.cityofwaupaca.org
715.258.4411

March 14, 2022

Dennis Klaila
State Broadband Grant Program
Public Service Commission of WI
610 N. Whitney Way
Madison, WI 53705

RE: Letter of Support – Broadband Expansion Project

The City of Waupaca is in support of the grant applications being submitted by Waupaca Online to the Public Service Commission for both infrastructure/equipment upgrades and administrative expenses.

Over the past 2-3 years the City has changed our approach to economic development within the area. It was not uncommon for municipalities and different taxing jurisdictions to be territorial and competitive when discussing economic development. More recently the Waupaca Area including the City, surrounding townships, Waupaca County and the Waupaca School District have made considerable progress in working together realizing that if we succeed, we will do so as a broader region. In 2020 and 2021 many of our school district residents struggled to keep their school-aged children engaged in their education due to their lack of internet access and ability to learn virtually.

As a municipal managed internet service provider, Waupaca Online is a unique tool that can help to help educate our area youth, attract residents, businesses, and entrepreneurs moving to rural areas engaging in remote work. We fully support the grant applications and the work of Waupaca Online and Waupaca County to solve a societal challenge at our local level.

Sincerely,

Aaron Jenson

City Administrator

Mayor

Brian Smith, Mayor
111 S. Main Street • Waupaca, WI 54981
bsmith@cityofwaupaca.org
www.cityofwaupaca.org
715.258.4410

March 14, 2022

Dennis Klaila
State Broadband Grant Program
Public Service Commission of WI
610 N. Whitney Way
Madison, WI 53705

RE: Letter of Support – Broadband Expansion Project

Waupaca Online has partnered with Waupaca County to work on a truly unique project that aims to provide increased internet access to rural areas around the City of Waupaca. The City of Waupaca has excellent internet coverage in large part due to Waupaca Online filling areas where the large telecommunication companies have chosen not extended service. In many instances, Waupaca Online is the provider of choice for those who have multiple options. City of Waupaca Staff and Common Council see the benefits of expanding internet service to our surrounding areas.

Waupaca Online is been a valuable and proven asset within the Waupaca area for many years and we are excited to be able to work with Waupaca County to provide access at affordable rates to our broader rural region.

I support Waupaca Online's grant requests for upgraded equipment and administrative costs which will have a direct positive impact on a number of households throughout our surrounding rural area.

Sincerely,

Mayor Brian Smith
City of Waupaca

Town of Caledonia

www.townofcaledonia.com
PO Box 190, Readfield WI 54969
(920) 667-4773

March 7, 2022

Joshua Werner
IT and Community Media Director
City of Waupaca
111 S. Main Street
Waupaca, WI 54981

Mr. Werner:

On behalf of the Town of Caledonia Town Board and the residents of the Town of Caledonia, I am writing this letter of support for your grant project to improve the equipment capabilities of the Waupaca Online tower system. The availability of high speed broadband service is critical to the residents and commercial operations of our township, yet available broadband service to our town is spotty at best with limited bandwidth and speed. Equipment upgrades providing more widely accessible and higher speed broadband is a critical need made even more obvious during the pandemic.

Over the past years and still today, the major fiber based broadband providers have made no progress in servicing our township. Even with extensive federal and state grant funding available, these major regional providers have not expanded service or capacity in Caledonia leaving the Town struggling to provide this essential service to our residents. In rural areas like ours, there appears to be limited desire by the major providers to invest in expanding services.

During 2021, the Town of Caledonia partnered with Waupaca Online and Waupaca County to install two wifi towers in our town. This new equipment will provide high speed broadband to a significant portion of our town's population and significantly upgrade the broadband service available to residents. Improving the equipment capabilities of Waupaca Online is very important for continuing to expand the areas reached by this new tower system and expand bandwidth available to all residents. Without Waupaca Online, the businesses and residents of Caledonia would likely suffer through poor broadband service for many years to come. The Town of Caledonia supports the two projects proposed by Waupaca Online - backhaul upgrade and tower upgrade - as important improvements to the system providing service to our area as well as other regions.

The response from residents in Caledonia to sign up for the Waupaca Online service has been very strong. Many are making contact with Waupaca Online to determine the availability of the service at their addresses and are looking forward to subscribing. This new service represents the best step forward for broadband internet service in Caledonia and residents are recognizing it.

We believe continued investment in Waupaca Online is the best option our town has for providing this critical service. We support investment in their equipment upgrades and look forward to continually expanding service areas and capacity improvements.

Sincerely;

William Abba
Chairperson
Town of Caledonia
Waupaca County

Appendix – Reality of DSL Offerings in Waupaca County

The following pages provide real examples from three DSL providers who service Waupaca County and an illustration of discrepancies of what has been reported for coverage/speed data to the state of Wisconsin PSC and what service is actually available. As we developed our grant applications and started to collect data in support of how our proposed projects will help to serve unserved and underserved customers we saw what appeared to be a lot of discrepancies on the State of WI PSC Broadband map.

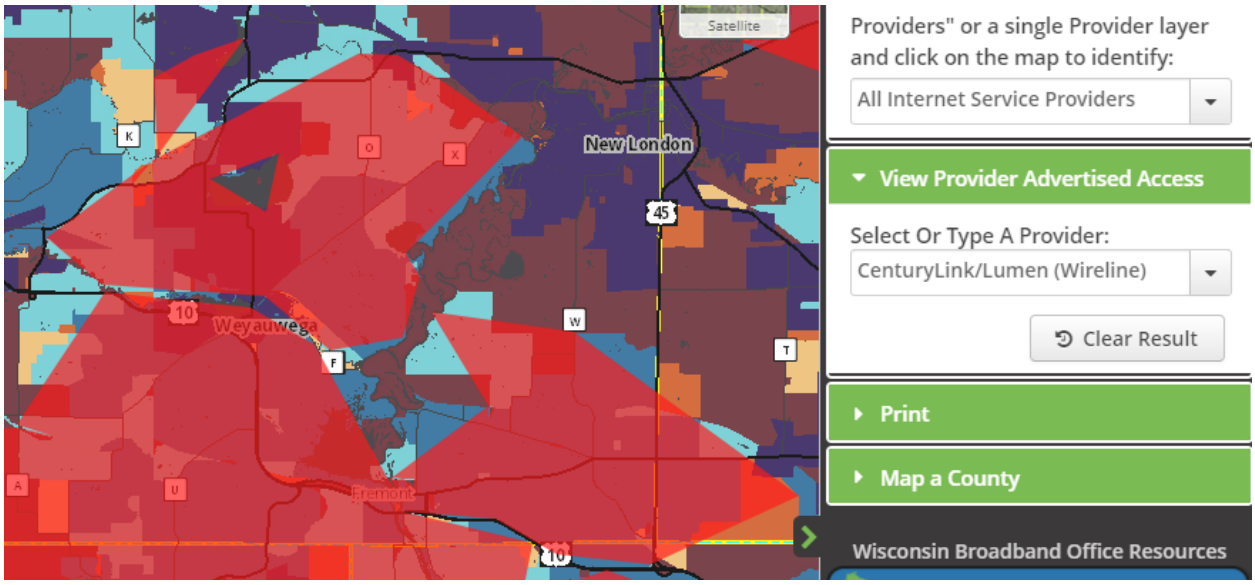
In our 20 years of operations we are very familiar with the landscape of internet coverage in Waupaca County. This is through our interaction with residents and businesses and what they truly face in obtaining service, being connected with government leaders who know about other projects and our time studying coverage for expansion projects and grant applications to ensure our resources are best used to reach those who need quality internet the most. It is not a good use of our time to put effort into serving areas already well connected.

Specifically, we've noticed that in mid-February the State of WI PSC Broadband Map was updated with data reported in Summer 2021 and upon evaluation of this updated data we saw a lot of claims, specifically by three DSL ISP's who operate in similar areas to Waupaca Online that did not seem to meet reality of what service offerings really are. The following pages are just a small sampling of examples of claims on the state broadband map and real data from a sampling of addresses in these service areas and what these ISP's offer (or do not offer). We also made phone calls to check several locations to CenturyLink, Frontier and AT&T to verify what is on the website is accurate and some spot checks of addresses matched.

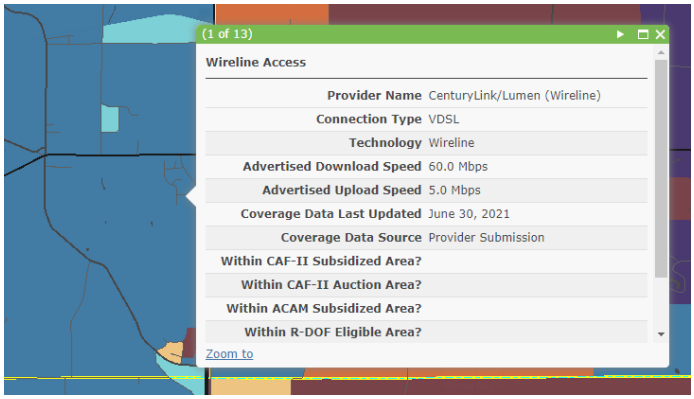
You could check dozens of other addresses in these service areas and find similar results of no service available or service available at much slower speeds than claimed. You can also reach out to residents and find out about the reality of slow speeds and no service offerings.

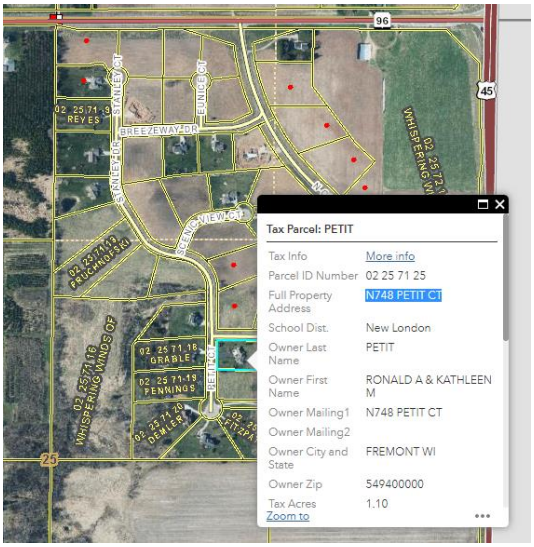
We present this data not to create bad publicity for these ISP's but to illustrate the disconnect between the reality of internet in Waupaca County and what has been reported to the state. We would like the Public Service Commission to take this into consideration when evaluating our grant applications. We do not want the evaluation of our grant application based on bad data and are putting effort into serving unserved and underserved areas. Finally, inaccurate data diminishes the chances of providing the best internet possible to all Wisconsinites since funding sources and expansion efforts cannot be correctly identified. The following examples illustrate this:

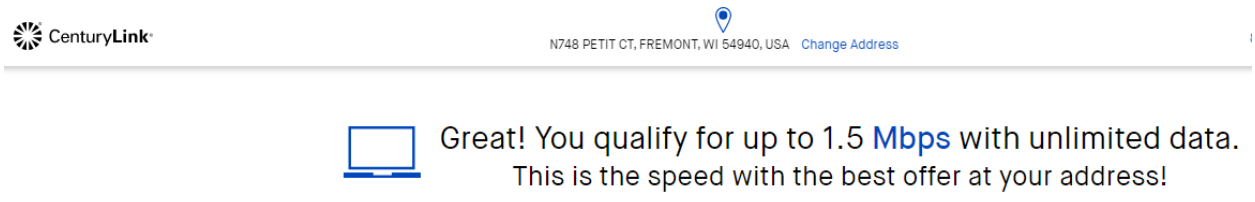
Town of Caledonia – CenturyLink/Lumen



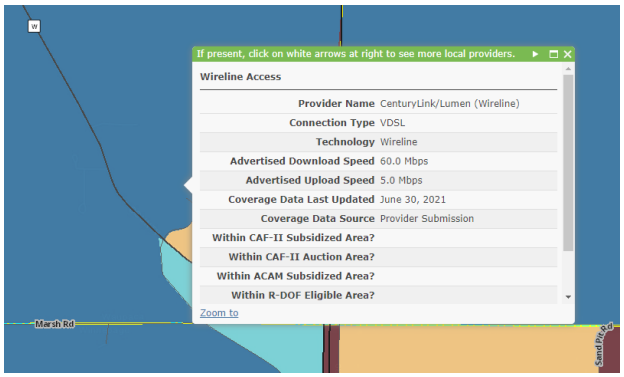
Example #1:

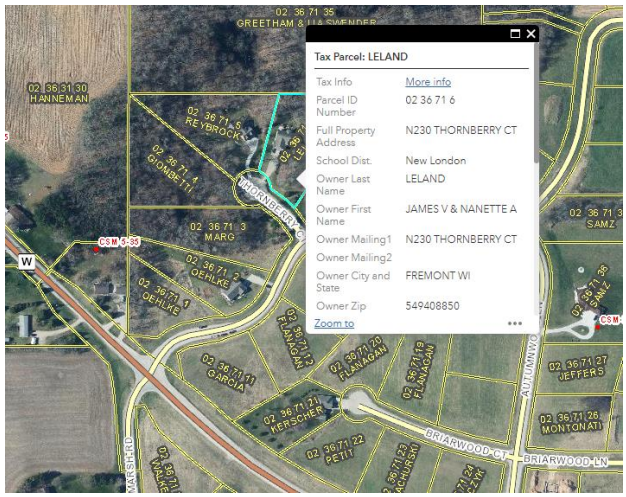






Example #2:



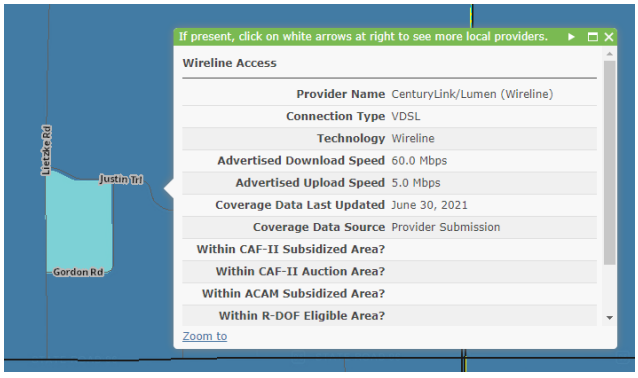


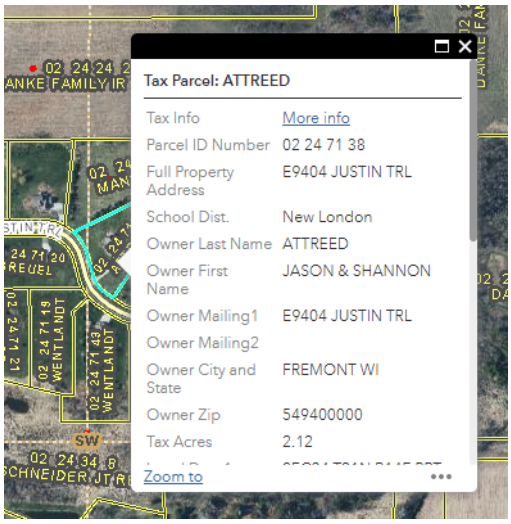
CenturyLink

N230 THORNBERRY CT, FREMONT, WI 54940, USA Change Address

Great! First let's choose an Internet speed.
Up to 10 Mbps with unlimited data is available at your address.

Example #3:



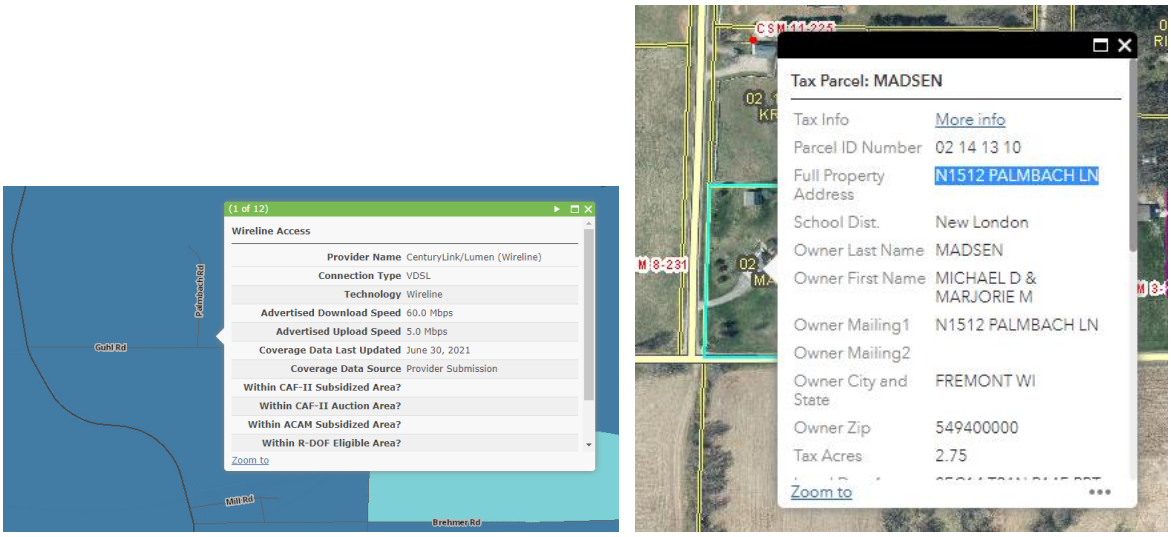


CenturyLink

E9404 JUSTIN TR, READFIELD, WI 54940, USA Change Address

Great! First let's choose an Internet speed.
Up to 10 Mbps with unlimited data is available at your address.

Example #4:

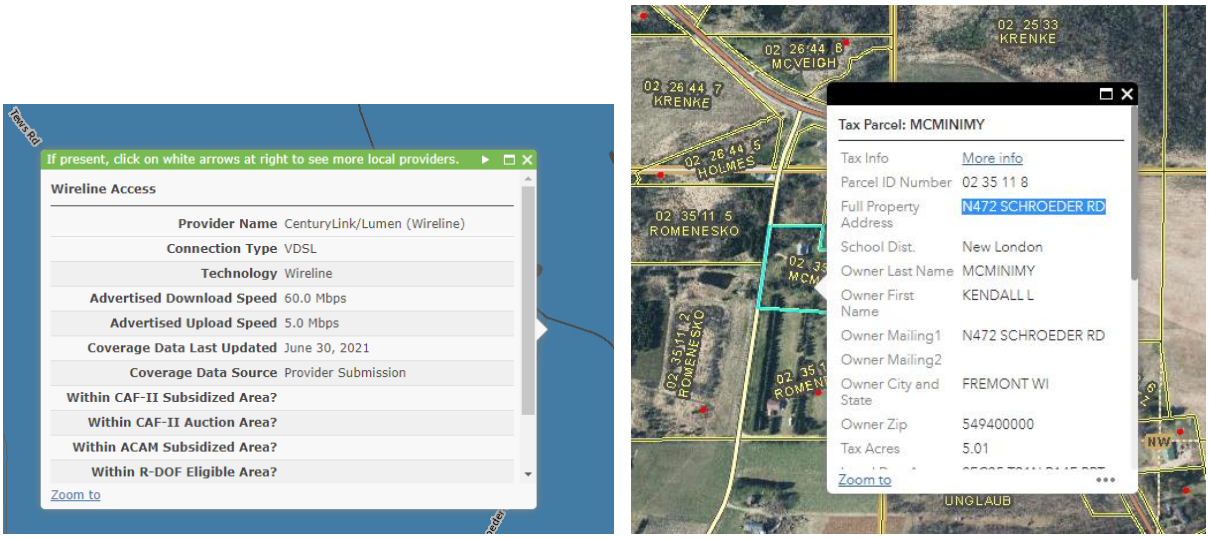


CenturyLink

N1512 PALMBACH LA, FREMONT, WI 54961, USA Change Address

Great! First let's choose an Internet speed.
Up to 10 Mbps with unlimited data is available at your address.

Example #5:

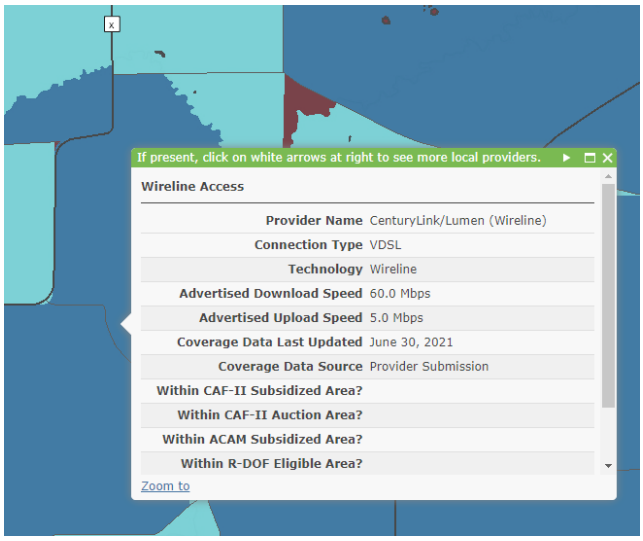


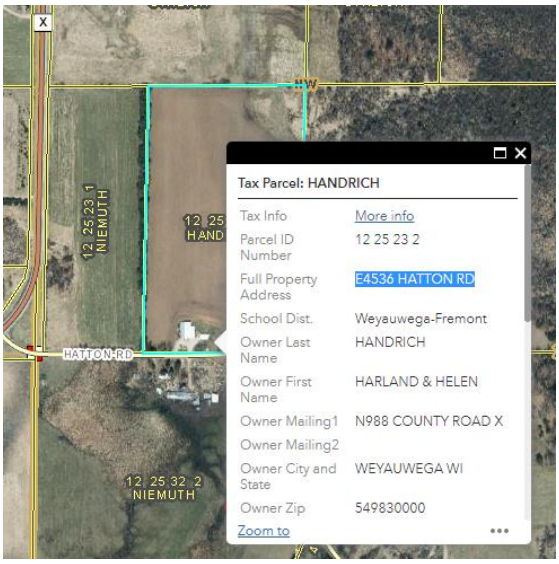
CenturyLink

N472 SCHROEDER RD, FREMONT, WI 54940, USA Change Address

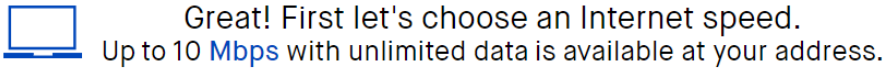
Great! You qualify for up to 10 Mbps with unlimited data.
This is the speed with the best offer at your address!

Example #6:

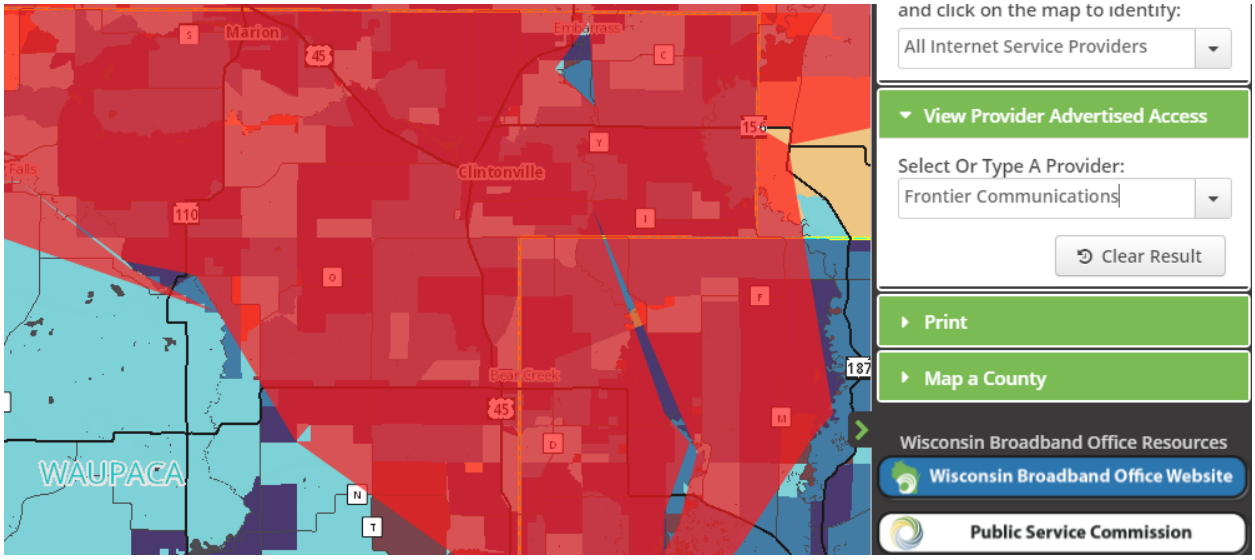

If present, click on white arrows at right to see more local providers.
Wireline Access
Provider Name CenturyLink/Lumen (Wireline)
Connection Type VDSL
Technology Wireline
Advertised Download Speed 60.0 Mbps
Advertised Upload Speed 5.0 Mbps
Coverage Data Last Updated June 30, 2021
Coverage Data Source Provider Submission
Within CAF-II Subsidized Area?
Within CAF-II Auction Area?
Within ACAM Subsidized Area?
Within R-DOF Eligible Area?
Zoom to


Tax Parcel: HANDRICH
Tax Info More info
Parcel ID Number 12 25 23 2
Full Property Address E4536 HATTON RD
School Dist. Weyauwega-Fremont
Owner Last Name HANDRICH
Owner First Name HARLAND & HELEN
Owner Mailing1 N988 COUNTY ROAD X
Owner Mailing2
Owner City and State WEYAUWEGA WI
Owner Zip 549830000
Zoom to
HATTON RD
12 25 32 2 NIEMUTH

CenturyLink
E4536 HATTON RD, WEYAUWEGA, WI 54983, USA Change Address


Great! First let's choose an Internet speed.
Up to 10 Mbps with unlimited data is available at your address.

Frontier Communications – Northern Waupaca County/NW Outagamie County



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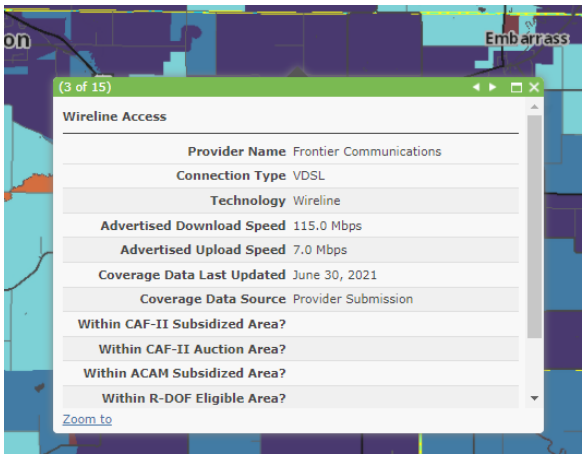
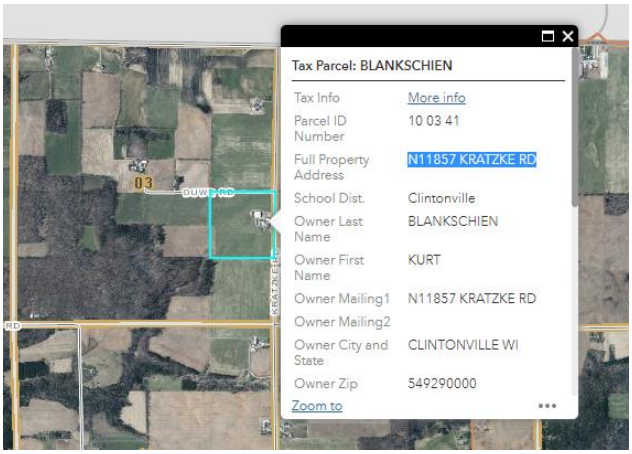
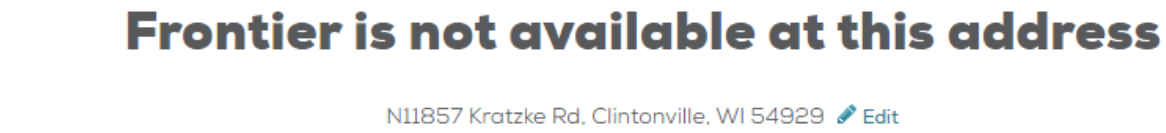
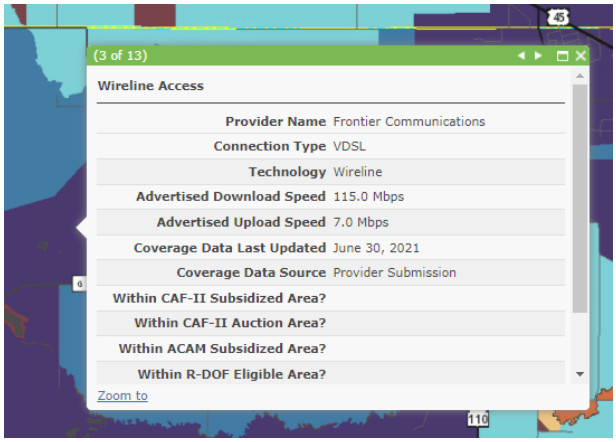
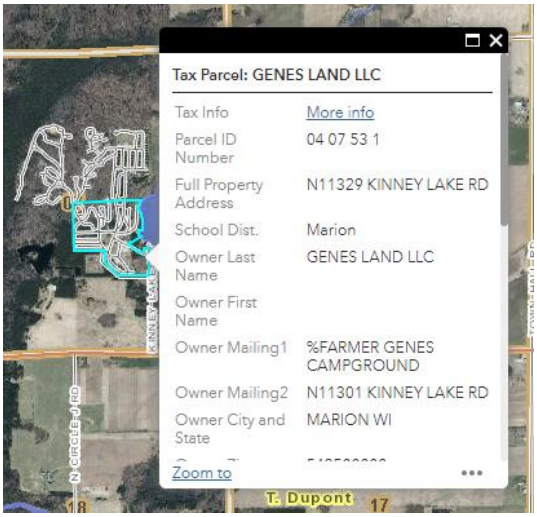






Example #2:





Add Home Phone

Service address:
N11301 KINNEY LAKE RD , 54950 **Edit**

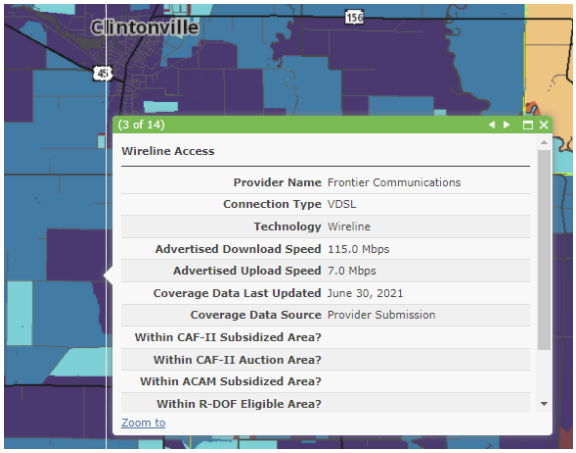
Max speeds as fast as
25Mbps
Frontier Internet

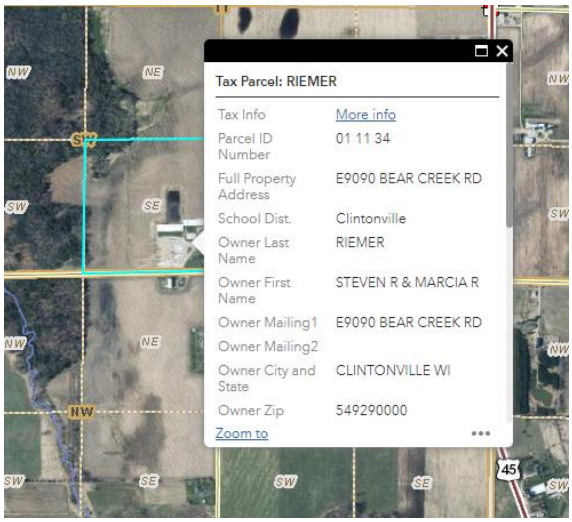
$39.99/mo with Auto Pay
~~$44.99~~
per month for 12 mos. One-time charge applies. Max speeds are wired. Wi-Fi, actual & average speeds vary.

- No annual commitment
- Stream your favorite movies and TV shows, or play games online
- Save $5/mo with Auto Pay
- Wi-Fi router included
- Includes protection for up to 10 devices with Multi-Device Security

SELECT PLAN

Example #3:

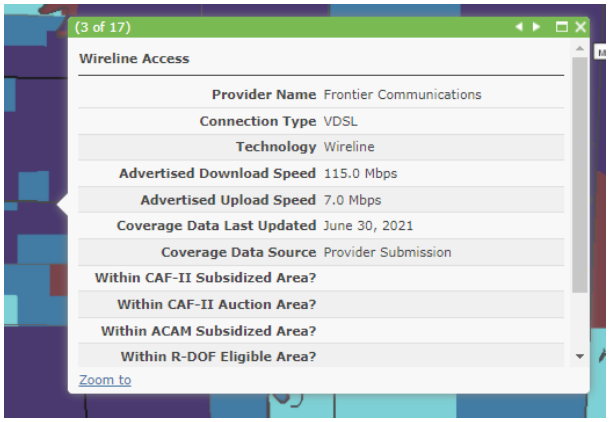


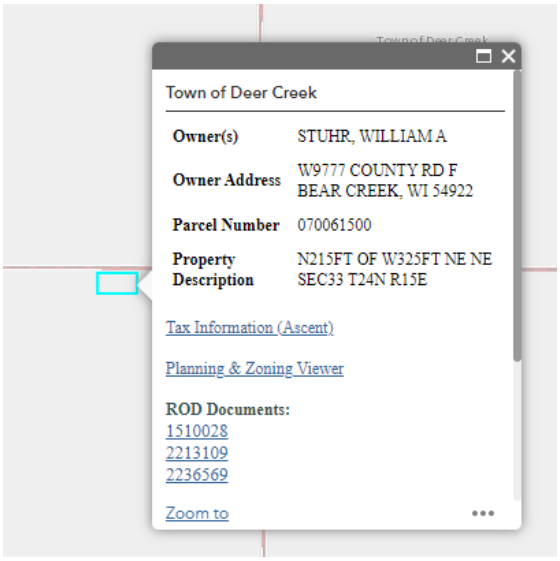


Frontier is not available at this address

E9090 Bear Creek Rd , Clintonville, WI 54929 Edit

Example #4

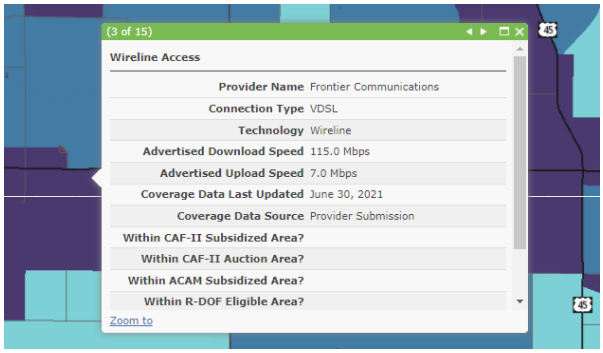


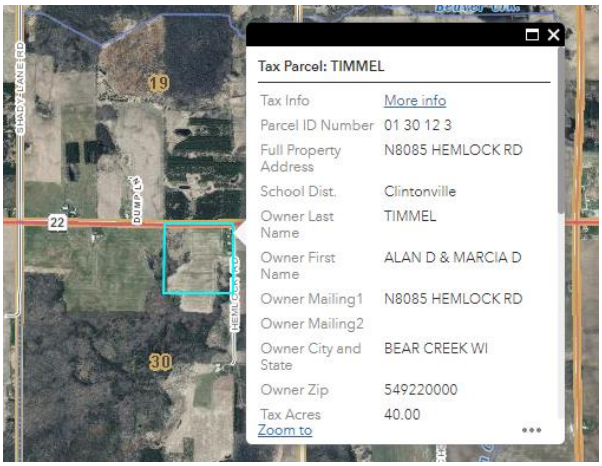


Frontier is not available at this address

W9777 County Road F, Bear Creek, WI 54922 Edit

Example #5:

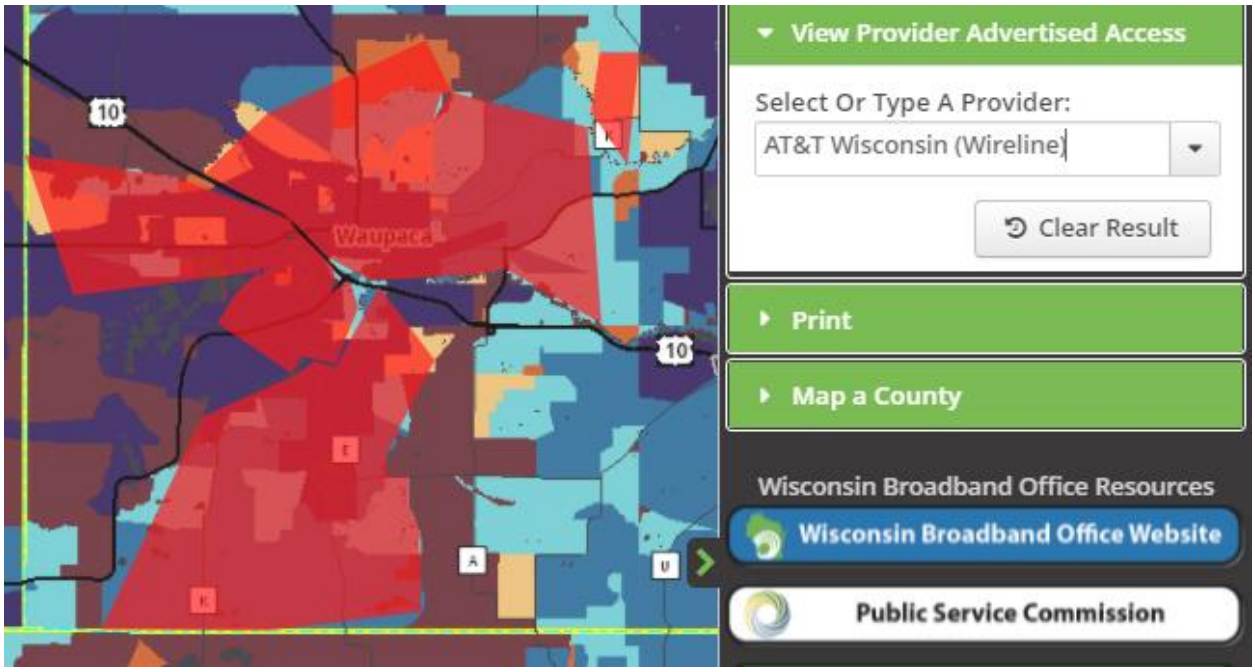




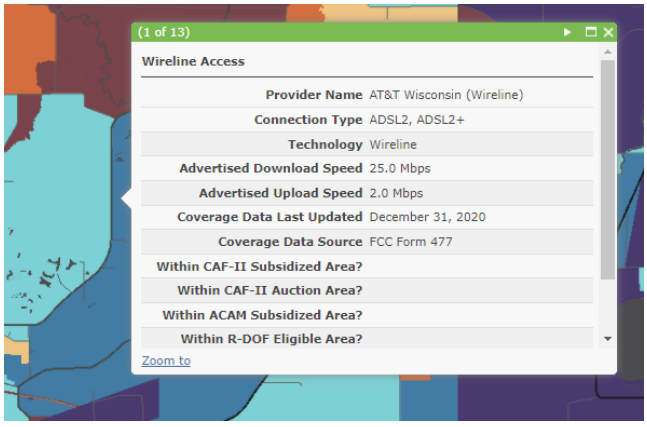
Frontier is not available at this address

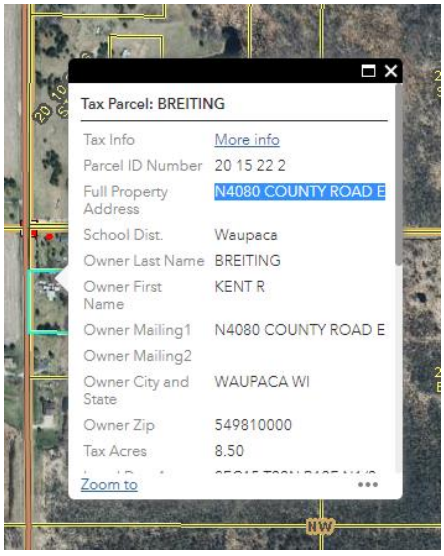
N8085 Hemlock Ln , Bear Creek, WI 54922 Edit

AT&T – Rural Waupaca Area



Example #1





Your address

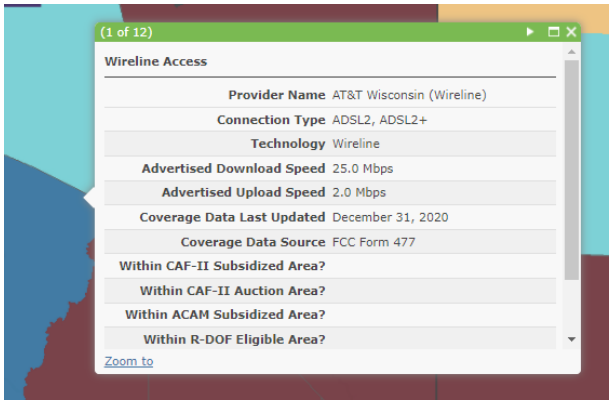
N4080 COUNTY E RD WAUPACA, WI 54981

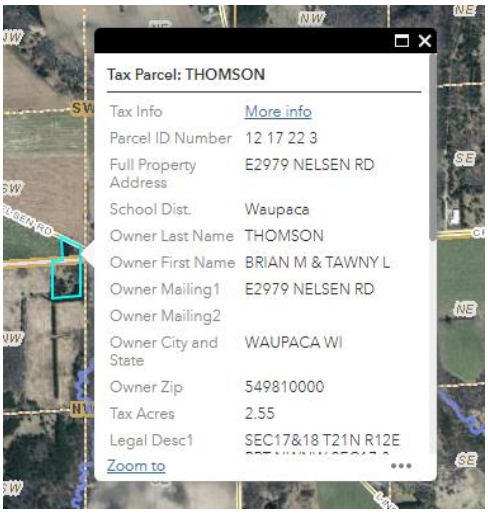
Already have an AT&T account? Sign in

Other available options

AT&T Internet is not available at your address.

Example #2:





Your address

E2979 NELSEN RD WAUPACA, WI 54981

Already have an AT&T account? Sign in

Other available options

AT&T Internet is not available at your address.

Materials and Presentation from Waupaca Online Public Information Meetings

- Tuesday, January 11, 2022 – Caledonia Town Hall
- Wednesday, February 16, 2022 – Waupaca County Courthouse
- Tuesday, February 22, 2022 – Union Town Hall
- Thursday, February 24, 2022 – FVTC Regional Center Clintonville

Waupaca Online

WAUPACA COUNTY EXPANSION PROJECT

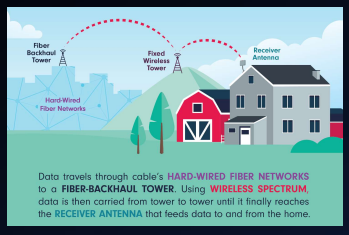
About Waupaca Online

- Publicly Operated Internet Utility
- 20th Anniversary
- Currently Serve 380 Customers
- Prior Expansion Project to rural Manawa, Clintonville, Bear Creek, DuPont
  - Serving over 100 local residents/businesses with better internet
- Started to fill voids of high-speed internet service in the City of Waupaca
- Not profit driven – all money reinvested into operations

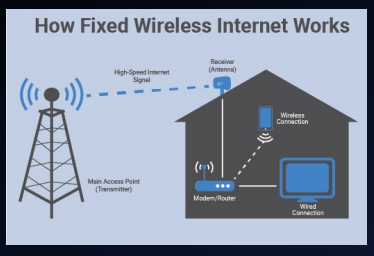
What is Fixed Wireless Internet

- Comes to your house wirelessly instead of via a cable
- Always on connection
- Not Satellite or cellular
- No data limits – overages – throttling
- Meets "broadband" standards up-to 25Mbps download / 5Mbps upload
- Low Latency

Fixed Wireless Internet

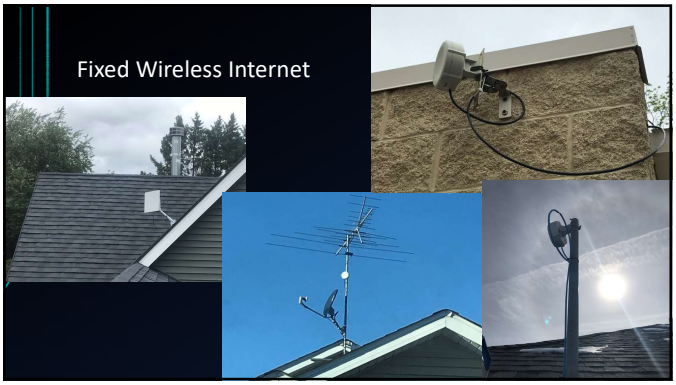


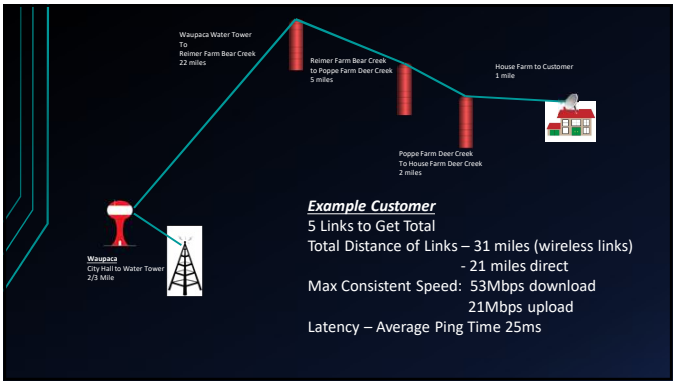
Fixed Wireless Internet



Fixed Wireless Internet

Fixed Wireless Internet





Example Customer
5 Links to Get Total
Total Distance of Links – 31 miles (wireless links)
- 21 miles direct
Max Consistent Speed: 53Mbps download
21Mbps upload
Latency – Average Ping Time 25ms

Speeds

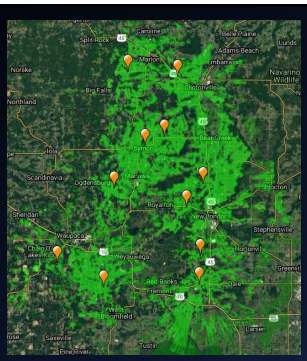
- Bronze 5Mbps Download x 3Mbps Upload
- Silver 10Mbps Download x 4Mbps Upload
- Gold 25Mbps Download x 5Mbps Upload
- Platinum – Customized speed up-to 100Mbps symmetrical

Unlimited Data

- 3.6tb 50Mbps plan (Apartment Complex)
- 1.9tb 25Mbps plan
- 1.8tb 25Mbps plan
- 1.3tb 15Mbps plan
- 1.2tb 15Mbps plan
- 1.2tb 25Mbps plan
- 1.1tb 10Mbps plan
- 1tb 5Mbps plan
- 960gb 10Mbps plan
- 900gb 10Mbps plan

- Average Data "limit"
  - Cellular/Satellite/Some Wireless
  - Range from 22gb-150gb/month

Coverage Area of New Towers



Pops / Repeater Site

- Use of a tall structure to reach local customers who otherwise lack line-of-site
- Silos, Harvorstore, TV Antenna towers, etc.
- Neighbors helping Neighbors

Employment

- Year-Round Part Time Position (Max 25-28/hrs/week)
  - Limited Benefits if work over 1,200/hrs
- 2 x PT Summer Positions
  - Great for student studying technology related degree but open to anyone
  - Could double to meet internship/work experience requirements
- Starting Pay $13-$15/hour

Waupaca Online Essentials Program

Affordable Internet for Qualifying Households

Waupaca Online is proud to offer our Essentials and Essentials Plus plans for qualifying households to ensure internet access is affordable for everyone. Those households wanting to find out if they are eligible can fill out the form attached. If your household size combined with total household income falls into the **"below"** column we are able to add you to the below plans.

Here are some specifics about the essentials program:
The program is open to new customers only. A new customer is defined as someone who was not a Waupaca Online customer within the past 90 days.

When requesting to join the essentials program and once your eligibility is verified you are set for the first two years. After that you must reverify your eligibility annually. If you fail to reverify or are no longer eligible you will move to our standard pricing tier.

Waupaca Online reserves the right to end this program, change eligibility requirements or require additional verification at any time.

Plans & Pricing

Speed Level	Monthly Rate	
Essentials: *5Mbps* *Download 3Mbps* *Upload*	$35.00	*This plan is good for a basic household of 1-3 persons, in which you might stream one video service at a time and do basic web surfing.*
Essentials Plus: *10Mbps* *Download* *4Mbps Upload*	$50.00	*This plan is good for a family of 3-5 in which you might stream 2 video services at a time and may also perform work/school from home.*

Router: $65.00	**Installation/Connection Fee:** $50.00	**Interest Rate on Unpaid Bills:** 2%

WAUPACA COUNTY BROADBAND TOWERS PROJECT
CLIENT INCOME CERTIFICATION FORM

The Waupaca County Broadband Towers Project is funded by the Community Development Block Grant (CDBG) Program. For Waupaca County] to qualify for this funding, the information requested below must be collected for all program clients. This information is strictly confidential and only reported to the required funding and regulating entities for program qualification purposes. Individual/family personal identifying information is not released to the public.

Client information at the time of entry into the program:

FAMILY INCOME INFORMATION

- **Circle** your family size in the far left column.
- If your family income is at or below the Family Income Level shown for your family size, then enter **"X"** in the **BELOW column.**
- If your family income is above the Family Income Level shown for your family size, then enter **"X"** in the **ABOVE column.**
- Family income includes the annual income of ***all*** family members living in your household.

FAMILY SIZE	FAMILY INCOME LEVEL	BELOW	ABOVE
1	$41,650		
2	$47,600		
3	$53,550		
4	$59,450		
5	$64,250		
6	$69,000		
7	$73,750		
8 or More	$78,500		

FAMILY RACE/ETHNICITY INFORMATION

Enter the race/ethnicity information for all family members or select the "Prefer Not to Answer" option below.

	Number in Family with Race/Ethnicity Shown on the Left:	Number in Family with Race/Ethnicity Shown on the Left Who are Hispanic:
White		
Black/African American		
Asian		
American Indian/ Alaskan Native		
Native Hawaiian/ Pacific Islander		
Amer. Indian/ Alaskan Native & White		
Asian & White		
Black/African Amer. & White		
Amer. Indian/ Alaskan Nat. & Black/ African Amer.		
Other Multi-Racial		
Prefer Not To Answer		

Client Printed Full Name:_____ Program Entry Date:_____

Client Signature:_____ Signature Date:_____

Client Income Certification Form Instructions for Program Administrator:

*Obtain current income limits on the HUD Income Limits website at: **https://www.huduser.gov/portal/datasets/il.html**. [The income limits in effect at the time of the client's entry into the program and for the "Low (80%) Income Limits" level for the county in which the program is operating must be entered in the table above on this form. The income limits are updated annually by HUD, typically released in March or April. Check the website regularly for updates.]*

Technology Consultant Contract
All-Net Consulting
WaupacaOnLine.net
For 2016

THIS AGREEMENT, made and entered into this 7th day of June, 2016 by and between the city of Waupaca (the City) and Ralph J. Schmal dba All-Net Consulting (All-Net) for consultant services for WaupacaOnLine.net (WOL.net).

SERVICES TO BE PREFORMED. All-Net shall provide technical services in support of the maintenance and technical management of the city broadband internet service – WaupacaOnLine.net (WOL.net). All-Net agrees to provide total monthly service hours per Attachment A to this Agreement.

All-Net further agrees to respond immediately (within 2 hours) on calls for service related to critical systems or processes so that WOL.net remains operational. The services rendered by All-Net are done so as an independent contractor and not as a City employee. As such, All-Net shall carry an umbrella liability insurance policy in the amount of $1,000,000. All-Net, upon request of the City, shall make a Certificate of Insurance available to the City to verify coverage.

Examples of work to be performed under this agreement include:

1) Network Maintenance
2) Research, procurement, field testing and installation of system hardware
3) Assist with the preparation of monthly reports of activities to the Common Council.
4) Coordinate activities with Billing Clerk to ensure proper customer billing
5) Keep customers abreast of WOL.net activities using online technologies such as email and Facebook
6) Assist with development and implementation of WOL.net advertising and promotion
7) Assist with development of WOL.net annual budget
8) Provide training to other WOL.net personnel on network configuration and to train as back up when Mr. Schmal is not available
9) Assist with customer installs as needed
10) Provide technical information, data and reports to City as requested

TERM. This contract shall be for a period of seven months beginning June 1, 2016 through December 31, 2016. This agreement will automatically renew for consecutive one year periods.

FEES: The cost per hour for all services identified above shall be in accordance with Attachment A.

All-Net shall bill the city monthly. All-Net is to keep a record of services supplied to the City and provide a monthly report as backup for its invoicing to the City. Payment by the City is due within 15 days of receipt of the invoice.

All-Net Consulting's hourly rate will be eligible for increase January 1st of each year at the same cost of living increase percentage received by city employees.

WORK SCHEDULING: The City and All-Net agree to be as flexible as possible in scheduling the dedicated hours around holidays or other scheduling conflicts.

CITY'S REPRESENTATIVE: The City IT-Communications Specialist shall be responsible for managing this contract on the City's behalf. All-Net is to use this staff person as the principal point of contact for the City.

TERMINATION. This contract may be terminated for any reason by either party upon thirty (30) days written notice by one party to the other. Should the agreement be terminated All-Net Consulting agrees to provide all system passwords and documentation to the City IT-Communications Specialist.

IN WITNESS WHEREOF, on the day and year first above written, the parties hereto have set their hands and seals.

CITY OF WAUPACA

By: Brian Smith, Mayor

ALL-NET CONSULTING

By: Ralph Schmal

ATTEST:

Henry Veleker, City Administrator/Clerk

ATTACHMENT A
Service Hours and Per Hour Fee - All-net Consulting

On Site – Waupaca Online
Hourly Rate: $49.00
Hours: 16 hours total per two week period

Off-Site Network Monitoring
Hourly Rate: $26.00/hour
Hours: 3.5 hours/week

Backup to City IT
Hourly Rate: $33.00/hour
Hours: As determined by IT-Communications Specialist or City Administrator